



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

521542.5





8/16/92
C. S. S. Miller

Clarendon Press Series

A MANUAL
OF
COMPARATIVE PHILOLOGY
PAPILLON

London
HENRY FROWDE



OXFORD UNIVERSITY PRESS WAREHOUSE
7 PATERNOSTER ROW

Clarendon Press Series

M. H. M.

A MANUAL ^{for}

OF

COMPARATIVE PHILOLOGY

AS APPLIED TO THE ILLUSTRATION OF

GREEK AND LATIN INFLECTIONS

BY

Thomas Leslie

T. L. PAPILLON, M.A.

Fellow and Tutor of New College, Oxford

Formerly Scholar of Balliol, and Fellow of Merton

THIRD EDITION, REVISED AND CORRECTED

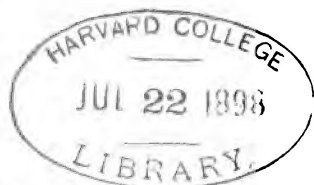
Oxford

AT THE CLARENDON PRESS

1882

[All rights reserved]

5215.42.5



Prof. M. H. Morgan

PREFACE.

THIS book contains the substance of lectures delivered at Oxford in 1874 and 1875 to candidates for Honours in Classics at the First Public Examination, upon the prescribed subject of 'the Elements of Comparative Philology as applied to the illustration of Greek and Latin Inflections,' and therefore does not profess to deal with more than a very limited portion of the wide field covered by the Science of Language. In the course of my lectures I was often met by the difficulty of recommending to pupils any English text-book that would give them in a compact and accessible form the means of preparing the subject for themselves¹; and I had hoped that the want thus felt might have been supplied for our students by the Oxford Professor of Comparative Philology. So long as there was any prospect of help from that quarter, it would have been presumptuous in me to come forward. But Professor Max Müller was unable to spare time from more important labours; and the preparation of this Manual was perforce entrusted to very inferior hands.

As to the educational value of the limited area of philological study which is here surveyed, I am aware that opinions

¹ Since this was written, Mr. Peile's 'Primer of Philology' (Macmillan) has provided beginners with an admirable little introduction to the study of Comparative Philology.

differ. It is said, for example, that a study of the forms of Greek and Latin words is a mere effort of memory, testing neither the reflective powers nor the application of deductive method, and therefore not worth introducing as a separate subject into the curriculum of study for Classical Examinations at Oxford. It might, I think, be asserted with equal truth that, inasmuch as some acquaintance with the history of Greek and Latin Inflections as read in the light of Comparative Philology is essential to an intelligent study of the grammar of those languages, some knowledge of the elements of that science might fairly be exacted from all candidates for classical honours. I am not however concerned with a defence of the study of Comparative Philology. Its bearings upon some of the most interesting problems of ethnology, of history, and of religion are too well known to require assertion; and if a mere knowledge of the forms of two or more languages seems to carry the student but a little way towards these higher regions of the science, it must be remembered that such elementary knowledge, small at first and gradually and carefully extended, is the only sure foundation for more advanced research, without which all enquiry into higher problems may lose itself in a wilderness of conjecture. I believe that a minute study and comparison of the forms of two such languages as classical Greek and Latin, or of two or more among the languages of modern Europe, with a due comprehension of the laws of phonetic change that have operated to produce existing divergences from common forms, is the best possible preparation for an adequate grasp of any of the higher problems into which the science of language enters. It has an interest too in itself; the interest of tracing in different languages the divergence, under regular processes of phonetic change, of words and forms common to them all; the interest of

detecting meaning and force in much that appears at first sight arbitrary and unmeaning; above all, the interest of watching the *life* of a language and its perpetual growth and change in the mouths of those who speak or have spoken it. No apology, I think, is needed for any attempt to lay in the minds of boys or young men the foundation, however limited, of such a study.

The arrangement which I have adopted is that which has been found most convenient for teaching purposes. In its main outlines it is the same as that adopted by Schleicher in his 'Compendium der Vergleichenden Grammatik,' and by teachers in the schools of Germany, if I may judge from a useful little summary entitled 'Sprachwissenschaftliche Einleitung in das Griechische und Lateinische, für obere Gymnasialclassen,' by Professor Baur of Maulbronn¹. It will be observed that the names referred to below as of leading authority are (unless England has by this time established a claim to Professor Max Müller) mainly German; and it is not too much to say that at present Comparative Philology cannot be thoroughly studied without at least a moderate acquaintance with the German language. But the best German philological works (to say nothing of their size and cost) are often, from the very exhaustiveness of their treatment, only confusing to beginners, who require a smaller array of facts more simply and clearly arranged. And valuable as are the translations into English of such works as Bopp's 'Comparative Grammar,' Curtius' 'Principles of Etymology' or 'The Verb,' or Schleicher's 'Compendium,' to the advanced student or teacher, they are both in quantity and quality above the requirements of the schoolboy or the undergraduate during the first period of his

¹ Accessible to English readers in a translation by Messrs. C. Kegan Paul and E. D. Stone (H. S. King and Co., 1876).

University life: to serve whom is the less ambitious, but I trust not less useful aim, of the present work.

I have still to admit, and to claim indulgence for, an imperfect knowledge of the Sanskrit forms necessary for the illustration of corresponding forms in Greek and Latin. But in preparation for the second edition (1877) the work had the advantage of revision (so far as the Sanskrit forms are concerned) by Professor Max Müller; and the present edition has had the additional advantage of supervision by Mr. D. B. Monro. Their united authority may command a confidence that otherwise would be beyond my reach. To secure a uniform system of transliteration from Sanskrit to Roman character, I have given below a Table of the Devanāgarī letters with their equivalents as employed in this book. Of the two alternative modes of representing the 'palatal' and 'cerebral' mutes given in Professor Max Müller's own table, I had in the second edition adopted that which represents them by the 'guttural' and 'dental' characters respectively in a different type, e.g. *k*, *kh* (guttural), *k*, *kh* (palatal); *t*, *th* (dental), *t*, *th* (cerebral): but it now seems to be on the whole more convenient to follow the majority of German philologists in the employment of a uniform type, and to represent the 'palatal' mutes by *c*, *ch* (*tenues*), *j*, *jh* (*mediae*); the 'cerebral' mutes by *ṭ*, *ṭh*, *ḍ*, *ḍh*; and the palatal sibilant by *ç*. The employment of *j* in this connection involves its abandonment in Latin words as the expression of the consonantal (semivowel) sound of *i*, which corresponds not to the palatal *media* (*य*, *j*), but to the palatal 'spirant' (*य*, *y*): and, though the convenience (as with *u*, *v*) of two distinct characters for two distinct sounds is thus sacrificed, the misleading associations of the English pronunciation of *j* in e.g. *judex* (*iudex*) are thereby avoided. As a representative of the Sanskrit palatal media, *j* retains something nearly approaching

its English pronunciation. In column V of the table on p. 42 will be found stated the *probable* pronunciation of the letters of the Roman alphabet; and where this differs from the English pronunciation of the same letters (as in the vowels *a, e, i, u*, the consonants *c, g* before *e, i*, and the semivowels *j, v*), the Roman, not the English, pronunciation is presumed in all Latin words cited. With this caution, I hope that any confusion as to the relation between the letters in question and the sounds represented by them, into which English usage might lead us, may be avoided.

For corrections and hints towards the preparation of this edition I have to thank, among others, an American correspondent (Mr. J. E. Goodrich, Burlington, U. S. A.) who has pointed out some typographical errors in the previous edition. But my chief debt has been to Mr. D. B. Monro, Vice-Provost of Oriel College, who has most kindly looked through the whole book in its second edition, and many of the proof-sheets for the third, and has favoured me with many valuable corrections and suggestions. Some of these are acknowledged where they occur; but their sum-total exceeds the limits of due acknowledgment. Those who best know Mr. Monro's calibre as a scholar and philologist will be most ready to believe that any advantage in consistency, clearness, or accuracy which the present edition may have over its predecessor, is due to him; and least willing to lay at his door the responsibility for any faults or inaccuracies that still remain. To the Delegates of the Clarendon Press I need only repeat my thanks for care taken and courtesy shown in all arrangements for publication.

T. L. P.

Table of the Devanāgarī Sanskrit Alphabet, with the corresponding Roman characters employed in transliteration of Sanskrit Words (adapted from Max Müller's 'Sanskrit Grammar for Beginners').

| | Tenuis. | Aspirated Tenuis. | Mediae. | Aspirated Mediae. | Nasals. | Liquids. | Sibilants. | Vowels ¹ . | | Diphthongs. |
|-----------------------------|---------|----------------------|---------|----------------------|---------|----------|------------|-----------------------|-------|---------------|
| | | | | | | | | Short. | Long. | |
| Gutturals. | क k | ख kh | ग g | घ gh | ङ ṅ | ह h | | अ a | आ ā | ए e: ऐ ai (ē) |
| Palatals. | च c | छ ch | ज j | झ jh | झ ṇ | य y | श ṣ | इ i | ई ī | |
| Linguals (or Cerebrals). | ट t | ठ th | ड ḍ | ढ ḍh | ण ṇ | र r | ष ṣh | चृ ṛi | चृ ṛī | ओ o: औ au (ō) |
| Dentals. | त t | थ th | द d | ध dh | न n | ल l | स s | लृ ṛi | लृ ṛī | |
| Labials. | प p | फ ph | ब b | भ bh | म m | व v | | उ u | ऊ ū | |

Unmodified Nasal (Anusvāra), ṁ m

Unmodified Sibilant (Visarga), ḥ h

¹ Each vowel (except अ a) has two signs ; the first initial, the second used when it follows a consonant. See below, p. 35, note 3.

LIST OF AUTHORITIES REFERRED TO IN THE PRESENT WORK.

BOPP'S 'Comparative Grammar,' translated by Eastwick.

MAX MÜLLER, 'Lectures on the Science of Language.'

'Chips from a German Workshop,' 4 vols.

'Selected Essays on Language, Mythology, and Religion;' being a republication of the more important 'Chips;' with some additional papers. Longmans, 1881.

SCHLEICHER, 'Compendium der Vergleichenden Grammatik.' 3rd edition, 1871. (Translated into English by Mr. H. Bendall. Trübner, 1874-1877.)

COBBSSEN, 'Ueber Aussprache, Vokalismus und Betonung der Lateinischen Sprache.' 2nd edition, 1868. (*The authority for Latin philology, and the storehouse from which Peile, Roby, Wordsworth, and others mentioned below, have drawn much of their information.*)

'Kritische Beiträge,' and 'Kritische Nachträge zur Lateinischen Formenlehre.'

CURTIVS, 'Grundzüge der Griechischen Etymologie.' 2nd edition, 1866. (Translated into English by Prof. Wilkins and Mr. England, of Owens College, Manchester.)

'Tempora und Modi,' an admirable treatise on the formation of Tenses and Moods in Greek and Latin. Berlin, 1846. (Now out of print.)

'Das Verbum der Griechischen Sprache.' Vol. i. 1873: vol. ii. 1876. The latest result of Curtius' studies, superseding much of 'Tempora und Modi.' (Translated into English by Messrs. Wilkins and England. Murray, 1880.)

'Greek Grammar.' (Published in English as 'The Student's Greek Grammar'.)

'Greek Grammar Explained,' or 'Elucidations;' a translation by Mr. E. Abbott of 'Erläuterungen zu meiner Griechischen Schulgrammatik,' published by Prof. Curtius in 1863, as a companion to his 'Greek Grammar.'

- LEO MEYER, 'Vergleichende Grammatik der Griechischen und Lateinischen Sprache.' (Especially valuable for its exhaustive collection of examples, from which the student can form his own induction as to particular formations.)
- PEILE, 'Introduction to Greek and Latin Etymology,' 3rd edition. (Macmillan, 1875.)
A Primer of Philology. (Macmillan, 1877.)
- ROBY, 'Latin Grammar (Vol. I) on Sounds, Inflections and Word-Formation.' (Macmillan, 1871.)
- SAYCE (Rev. A. H., Fellow of Queen's College and Deputy Professor of Comparative Philology, Oxford), 'Introduction to the Science of Language,' 2 vols. (C. Kegan Paul and Co., 1880.)
- WORDSWORTH (Rev. John, Brasenose College, Oxford), 'Fragments and Specimens of Early Latin.' (Clarendon Press, 1874.)
- FERRAR, 'Comparative Grammar of Sanskrit, Greek, and Latin,' Vol. I. (The author's death unfortunately left the work half-finished before he had treated of Verb-Inflections.)
- FARRAR (Rev. Dr., Canon of Westminster), 'Chapters on Language,' and 'Families of Speech.'
- WHITNEY (Professor of Sanskrit and Comparative Philology in Yale College, U. S. A.), 'Life and Growth of Language.' (Published in England by H. S. King and Co., 1875.)
- MONRO (D. B., Vice-Provost of Oriel College, Oxford), 'A Homeric Grammar' (Clarendon Press, 1882).

CONTENTS.

CHAPTER I.

PAGE

| | |
|------------------------|-----|
| INTRODUCTORY | 1-3 |
|------------------------|-----|

CHAPTER II.

CLASSIFICATION OF LANGUAGES—

| | |
|--|------|
| ‘Morphological’ and ‘Genealogical’ classifications—Table of the Indo-European Family—Table of correspondence between its members—‘Romanic’ or ‘Romance’ languages; their origin—Table of correspondence between them—Features of change from synthetic to analytic languages exhibited by them | 4-27 |
|--|------|

CHAPTER III.

CLASSIFICATION OF SOUNDS—

| | |
|---|-------|
| General principle of phonetic change to secure ease of articulation—Comparative strength or difficulty of sounds according to the physical conditions of their production—Consonants; their threefold classification—Vowels and Diphthongs. Relation of sounds to letters—Sanskrit alphabet | 28-39 |
|---|-------|

APPENDIX TO CHAPTER III—

| | |
|--|-------|
| On the Greek and Roman Alphabets | 40-48 |
|--|-------|

CHAPTER IV.

CHANGES AND MODIFICATIONS OF SOUNDS—

| | |
|---|-------|
| General principles—‘Dynamic’ change: Reduplication, Vowel-Intensification, and Nasalisation—‘Phonetic’ change: Substitution, Loss, Assimilation, and Dissimilation of Vowels and Consonants—Changes due to indistinct utterance—National peculiarities of utterance—Grimm’s Law | 49-91 |
|---|-------|

CHAPTER V.

| | PAGE |
|--|---------|
| FORMATION OF WORDS— | |
| Radical and Formative Elements—Roots, Stems, and Inflections—Processes of Word-Formation | 92-101 |
| APPENDIX TO CHAPTER V— | |
| A. List of Nominal Suffixes—B. Derivative Verbs in Greek and Latin | 102-104 |

CHAPTER VI.

| | |
|--|---------|
| NOUN-INFLECTION— | |
| Number of Cases—Gender and modes of Generic Distinction—Declension—Suffixes of Case-Inflections in detail—Comparison of Adjectives—Paradigms | 105-141 |

CHAPTER VII.

| | |
|--|---------|
| INFLECTION OF PRONOUNS— | |
| Pronouns without Gender: First and Second Personal, and Reflexive—Paradigms—Pronouns with Gender: Paradigm of stem <i>tu</i> —Peculiarities of Latin Pronominal Declension | 142-157 |

CHAPTER VIII.

| | |
|---|---------|
| VERB-INFLECTION— | |
| Distinction between Noun and Verb—Augment, Thematic or Connecting Vowel—Classification of Verbs—Person-Endings—Mood-Signs—Tense-Stems and their formation—Infinitives and Participles | 158-240 |

APPENDIX I.

| | |
|--|-----|
| Specimens of Early Latin Inscriptions. | 241 |
|--|-----|

APPENDIX II.

| | |
|--|-----|
| Formation of Adverbs in Greek, Latin, and Sanskrit—Table of Prepositions | 247 |
| General Index | 257 |
| Index of Sounds and Forms Explained | 261 |

CHAPTER I.

INTRODUCTORY.

THE main object of the present work, as indicated by its title, Object of the work. is the philological explanation of the Inflections in Greek and Latin. For the purposes, however, of such explanation it is necessary to presume a certain acquaintance with the main results of the Science of Language or Comparative Philology, and with the terms commonly in use among philologists; and we must begin with understanding, (1) the general classification of Preliminary questions. Languages, and the place in the history of human speech of those languages with which we are immediately concerned, viz. Greek and Latin; (2) the classification of Sounds and the letters by which they are represented, and of the processes of change which sounds have undergone in human speech; (3) the constituent elements of language—i. e. 'roots' or simplest forms, and formative elements, including Inflections. Into questions of the origin of language, and the connection between its simplest discoverable forms and the ideas expressed by them, we need not enter. The balance between the two extreme views of language as a conventional¹ production—a view based upon the

¹ The view that language is 'conventional,' in the sense that people meet or ever met together to deliberate on the meaning and changes of words, is of course easily ridiculed. The term, however, may also be applied to language in opposition to the idea that there is any *necessary* connection between words or 'roots' and the ideas signified by them, or that there are organic forces of growth in speech itself which, by some mysterious natural process, without human agency, produce new material and alter old. These ideas exercise a kind of fascination over some students of language; but it is reasonably maintained that spoken language (as distinct from the *faculty* of language implanted in man) is an

Discussion
of the Na-
ture and
Origin of
Language
unneces-
sary.

apparent meaninglessness of its formal elements—and language as an organic being, producing those formal elements by virtue of a mysterious principle of growth inherent in its nature, has been clearly drawn by Professor Max Müller in those Lectures on the Science of Language¹, 'to whose world-wide popularity (it has been well said) Comparative Philology owes its present position and its present charm:' and for this question, with others that relate to the aim and methods of Comparative Philology, we cannot do better than refer to a book which for every English student of that science should be the avenue by which he approaches it. But we may examine the relation of Latin and Greek words to each other or to Sanskrit, or trace the history of varying forms in any one language, without touching such questions as that of the Onomatopoeic or Interjectional origin of human speech (the 'Bow-Wow' and 'Pooh-Pooh' theories of Professor Max Müller), or deciding whether language arose from imitations of cries and sounds (as it often does in the nursery) or from exclamations expressive of pleasure or pain or other emotions of mind or body. The furthest researches into the history of language and the utmost possible analysis of written or spoken languages bring us to certain primitive and elementary combinations of sounds which we call 'roots;' but we cannot arrive with any certainty even at the ultimate *form* of these roots. The earliest traceable condition of that 'Indo-

external medium of communication, learnt in childhood by mere imitation, and not inherited as a race-characteristic, or independently produced by each individual with his mental and bodily growth. The acquisition by each individual of his own language in childhood is the gradual accumulation, by imitation of those around him, of a stock of signs, which are so far arbitrary and 'conventional,' in that each is bound to the idea signified only by a tie of mental association, and not by any natural and necessary connection. 'Language' is not a faculty or capacity, but a developed result; and the assumption that man is gifted at his birth not only with the capacity, but also with its elaborated results, is a theory, not of a Divine, but of a 'miraculous' origin of speech.

The question of the Nature and Origin of Language is treated in a popular form by Prof. Whitney in his 'Life and Growth of Language' (see especially ch. xiv). He assigns a more important place to the 'imitative' or 'onomatopoeic' principle than some philologists allow; but on a question of this nature much latitude of opinion is possible, and his remarks are very suggestive and instructive.

¹ See Lectures, Series I. Lect. v. on 'Comparative Grammar.'

European' speech, of which (as we shall see) Sanskrit, Greek, and Latin, with the other languages comprised under that term, are dialectical varieties, is evidently far removed from the primeval time when language first arose—as is clear, among other reasons, from its highly developed vowel-system, and the employment of vowel change rather than the earlier and simpler method of reduplication¹ to express modifications of ideas: and therefore speculations as to the connection between its elements and the ideas expressed by them can be of little use for the purposes of a science which (as Professor Max Müller points out) collects *facts* and accounts for these facts as far as possible. It is at least probable that language owes its origin to a combination of imitational and interjectional sounds: for it is difficult to assign any other origin to speech, and the phenomena of dawning speech in infants point to this as one natural origin for conscious sound: but the existing materials of language, with which alone Philology has to do, give us no data upon which to base any calculations as to the exact mode in which such growth of speech began. Passing by, therefore, such questions, we may proceed to the consideration of the points already mentioned as introductory to the explanation of Greek and Latin Inflections; viz. the classification of languages, the classification of sounds, the changes and modifications of sounds, and the elements of word-formation. These will occupy the next four chapters, and the discussion of Inflections properly so called will follow in chap. vi.

¹ On this point consult Peile's 'Introduction to Greek and Latin Etymology,' pp. 173 sqq. (3rd edition); and see below, ch. iv.

CHAPTER II.

CLASSIFICATION OF LANGUAGES.

Twofold
classification
of lan-
guages.

GREEK and Latin are 'inflectional' languages of the 'Indo-European' family. These terms refer to a double classification, viz. (a) *morphological*, according to the mode in which modifications of ideas are expressed by combination of primitive elements; (b) *genealogical*, according to similarity of grammatical forms.

a. Morpho-
logical.

(a) The 'morphological' classification distinguishes three 'stages' of growth in language¹:—

1. 'Radical' or 'Isolating,' in which the simplest elements of speech or 'roots'² are employed as words, without modification of their own sounds or combination with each other: mere juxtaposition of isolated roots expressing modification of ideas. Chinese and its kindred dialects are examples of this stage.

2. 'Agglutinative' or 'Terminational;' in which roots are joined together to form words. In such compounds one root loses its independent form, and appears as a sound expressive of meaning tacked on (as prefix or suffix) to the other, which remains as the primitive element or 'root' of the word. The Finnish and Tataric languages, and the dialects of the aborigines

¹ For details which are beyond the province of the present work, see Max Müller's Lectures, Series I. Lect. viii. (on 'Morphological Classification').

² It is necessary here to anticipate the distinction (explained below in ch. v) between the 'radical' elements in words or 'roots,' i. e. the simplest part of each word which expresses its general idea or meaning, and the *formative* elements by which this general idea, common to many words, is defined and modified. For purposes of instruction, ch. v. may, if it seems convenient, be taken before ch. ii.

of the Pacific Islands (grouped by Professor Max Müller and others under the name 'Turanian') appear to be in this stage.

3. 'Inflectional;' in which both roots (i. e. the 'root' proper and the suffix) are modified according to regular processes for the expression of meaning. The Semitic and Indo-European families of speech fall under this head.

This classification may be illustrated by constructing an imaginary history, passing through these three stages, of some Greek or Latin word, e. g. $\epsilon\iota\mu$ (*ibo*). The ultimate forms or 'roots' to which philological analysis has reduced the two syllables of which this word is composed, are *i* (idea of 'going') and *ma* (1st personal pronoun). We should have these roots combined in the Radical stage by simple juxtaposition [*i ma*]; in the Agglutinative, by suffixing one to the other, and modifying the root thus suffixed [*i-ma*, *i-mi*]; in the Inflectional, by modification of both roots [*ai-mi*, $\epsilon\iota\mu$].

Illustration of the three stages of morphological growth.

The student must bear in mind that this is a classification, not of languages, but of varieties of linguistic development; and that though, when we speak of Chinese as 'Isolating,' Hungarian as 'Agglutinative,' Greek and Latin as 'Inflectional,' we give a correct idea of the general characteristics of those languages, and their *structural* contrast to each other, we do not imply that there is in any one of these languages no trace of the structural characteristics of the others. The higher 'agglutinative' dialects (e. g. Finnish and Hungarian) are almost inflectional, and in some respects analogous to the Indo-European languages; while in inflectional languages many forms are found in which the 'root' maintains its own form and distinction from the suffixes, no less completely than in an agglutinative language. Thus to take the Greek word just employed as an illustration; beside $\epsilon\iota\mu$, a typical inflectional form, we have $\tilde{i}\mu\epsilon\nu$, $\tilde{i}\tau\epsilon$, in which the root proper remains unmodified¹. Again, beside $\epsilon\iota\mu\acute{\iota}$ (*sum*), we have the dialectical variety $\epsilon\sigma\mu\acute{\iota}$ (Aeol.), in which the root as of the Sanskrit *asmi* remains in a much less

The three 'stages' not always mutually exclusive;

¹ It should be stated that recent philological researches (especially of Fick and De Saussure) have made it probable that in $\epsilon\iota\mu$ as cp. with $\tilde{i}\mu\epsilon\nu$, $\tilde{\epsilon}\chi\omega$ ($\sigma\epsilon\chi\omega$) cp. with $\tilde{\epsilon}\sigma\chi\omega\nu$, $\pi\epsilon\iota\theta\omega$ cp. with $\tilde{\epsilon}\pi\iota\theta\omega\nu$, the longer form of the root is the older. See Monro, 'Homeric Grammar,' § 37.

modified form—the *ε* being at most a phonetic variety of *α*¹ (see p. 36)—and which in this respect of root modification marks a transition stage, and that not very far upon the road, from Agglutination to Inflection. And as in English the line between mere juxtaposition and word composition is often hard to draw, cp. e.g. ‘house floor’ and ‘housetop,’ ‘godlike’ and ‘godly,’ so it is often in languages of low development a matter of doubt where isolation ends and agglutination begins ; and even Chinese, the purest example of the first, is by some regarded as being in its colloquial forms and in some of its dialects a language of compounded words.

nor always
historical for
each lan-
guage.

On the other hand, it is misleading to speak of these ‘stages of development’ as marking a definite *historical* progress of individual languages from a lower to a higher state of civilisation. History offers no proof that all inflectional languages have previously passed through an agglutinative stage of development, or that isolating languages must pass on with increasing civilisation to an agglutinative and finally to an inflectional stage. What has once *become*, remains: Chinese, which at a very early stage became what it is, a language of the ‘isolating’ type, remained in that condition, and, like Chinese civilisation, stopped once and for all in its growth. It remained, so to speak, a precocious child ; while of inflectional languages it may be said that they grew to manhood before they stopped—the agglutinative stage representing an intermediate period of advance from childhood towards manhood. As *languages*, sufficiently developed for the purposes of national speech, those of each type remain what they have once become—isolating like Chinese, agglutinative like Tataric, or inflectional like Latin. This fact, however, need not preclude the supposition that in the earliest growth of *language*—a growth which lies far beyond the remotest period to which the evidence of, or inference from, the facts

¹ De Saussure (‘Mémoire sur le Système Primitif des Voyelles dans les Langues Indo-Européennes’) shows a reason for thinking that the *a* sound was already modified in *pronunciation* both in Sanskrit and in the primitive Indo-European speech, though it was reserved for Greek to express this varied pronunciation in written character.

of written or spoken languages carries us back—the elements out of which it grew must have exhibited the progressive stages of which we speak. ‘Agglutination,’ for instance, presupposes two things which could be ‘glued’ together: that is, it presupposes an earlier stage of ‘isolation.’ ‘Inflection’ presupposes something which was not ‘inflected,’ but was capable of being so; that is, it presupposes a state of either isolation or agglutination, or of both in succession. These ‘stages’ then are (as has been already pointed out) varieties of linguistic development, the developed results of which, in written or spoken languages, exhibit as a rule the characteristics of one or other variety, not of two or of all in succession.

With this limitation it seems perfectly reasonable to reconcile this theory of three stages of development with the facts of language, which offer little evidence of actual progress by individual languages from one stage to another. They are types or varieties of development; not historical stages of growth. Accordingly, though spoken Chinese and some of the higher agglutinative dialects are said to approach more or less to inflection, their general characteristic remains what it always has been. And in Indo-European languages, though analysis of the verb-inflections (above, p. 5) seems to point to an earlier agglutinative stage and a still earlier period of simple isolated roots, we cannot as a matter of fact point to a period when the two parts e.g. of *εἶμι* were ever of full and equal power as independent words in language; and though we may trace formative suffixes back to roots with general meanings [e.g. *-tar* in *pater*, *mater*, etc., and the terminations in *-rop*, *-tor* of nouns of agency, to the root = to ‘cross’ or ‘get through’ (with a thing) which appears in *trans* and *through*], we do not thereby prove the previous existence, as historical fact, of an isolating or agglutinative stage (i.e. of an invariable root) in what are, and so far as our evidence goes always have been, inflectional languages. Comparison and analysis of the Indo-European languages enable us to form some conception of the state of civilisation attained by those who spoke the primitive mother tongue upon the table lands of Central Asia—a civilisation

probably much below the contemporary civilisation of China. There is, however, no evidence to connect these stages in the growth of language with stages of civilisation: and we see that the language of China remained in the isolating stage, while that of our Indo-European ancestors must have already passed from the stage of isolation through that of agglutination to the inflectional stage, in which it is presented to us by the earliest ascertainable *data* of Philology. These *data* show us the case and person endings, for example, in the condition of grammatical forms—inflections or modifying suffixes; and there is no trace, as far as meaning goes, of their having ever been separate or agglutinated particles. While Chinese has remained in the most primitive stage, fossilised, so to speak, like the whole Chinese civilisation, the Indo-European languages, so far as we can trace them, have always been in the most advanced stage: but for enquiry into the causes of this difference, which is an enquiry into the mental characteristics of the different races of mankind, the facts of language offer no foundation: and it is of these facts alone (as has already been said) that Comparative Philology takes cognisance.

8. Genealogical classification.

(b) Genealogical Classification:—

This classification gives us three main ‘families’ or groups of languages, according to similarity (a) in vocabulary, (b) in grammatical forms: viz.

1. *Semitic*, including Hebrew, Arabic, Assyrian, and their kindred dialects.

2. *Indo-European* (otherwise called ‘Indo-Germanic’ or ‘Aryan’), including the following subordinate classes or groups—Indic, Iranic, Hellenic, Italic, Keltic, Slavonic, and Teutonic.

The languages comprised under both these heads are ‘inflectional.’

3. *Turanian*¹ (otherwise called ‘Ural-Altaic,’ ‘Mongolian,’ ‘Tataric,’ or ‘Scythian’), including the languages of the nomadic

¹ The name ‘*Turanian*,’ familiar from its use by Prof. Max Müller, is retained as a designation of the ‘class’ of languages, for which some prefer one or other of the names here quoted. See Whitney, ‘Life and Growth of Language,’ pp. 231, 232.

racés of Asia and Europe (Laplanders, Hungarians, Samoyeds, Turks, Mongols, Tartars, etc.), and the dialects of Siam, Malay, and the Polynesian Islands. These languages are all 'agglutinative,' and though it is impossible to trace in them anything of the same family likeness of vocabulary or grammatical forms, as in the Indo-European or Semitic groups—the absence of such family likeness being naturally characteristic of the dialects of a nomad population, among whom no nucleus of a political, social, or literary character has ever been formed, which could give fixity to and create definite standards for language—we may accept, as sufficient warrant for the application to them of the term 'class' or 'group,' the statement that 'some of the Turanian numerals and pronouns, and many Turanian roots, point to a single original source; and the common words and common roots which have been discovered in the most distant branches of the Turanian stock warrant the admission of a real, though very distant, relationship of all Turanian speech¹.'

It is, however, with the 'Indo-European' languages that we are now concerned. The fact implied by this name is now a familiar truth established by Comparative Philology, viz. that a comparison of the languages of all the civilised races of Europe, and two at least of those of Asia (Indian and Persian), proves beyond doubt that these languages are branches of a common stock, and with reasonable probability that there was once a time when the ancestors of Germans and Slaves, of Greeks, Italians, and Kelts, of Persians and Hindús, were settled in a rudimentary stage of civilisation upon the plains of Central Asia², and spoke the same language, subject to such dialectical variety as must always arise in a primitive state of society, with imperfect communication between the scattered members of a single nation or even of a single tribe. This time is, however, pre-historic; and though, upon the evidence of language, philo-

¹ 'Indo-European' languages, meaning of the term.

¹ Max Müller's Lectures, I. viii.

² 'We may picture the tribes which used the parent-Aryan speech as living on the slopes of the Hindu-Kush, in the high central table-land of Asia, and watching the sun as it set evening after evening behind the waters of a great inland sea.' Sayce, *Introd. to the Science of Language*, ii. p. 124.

logists sketch out for us the state of civilisation and manners of this primitive people, and even claim to restore the 'Ur-sprache' or primitive language anterior to any dialectical variation, we cannot regard these as historical facts, the only *facts* before us being the phenomena exhibited by different kindred languages, by Sanskrit, Greek, Latin, etc., which we group under the term 'Indo-European'.¹

This term seems to be that of widest meaning, and most obviously inclusive of all the languages in question. The name *Indo-Germanic*, employed by many German scholars, is hardly comprehensive enough of the European branch of the family; while the names *Sanskritic*, *Japhetic*, *Mediterranean* (suggested by Ewald), and *Caucasian*, are each open to the objection of countenancing misleading notions². There remains the term *Aryan*, popularised in this country by Professor Max Müller's Lectures, and employed by many philologists as a designation of the Indo-European family; but by some in the more restricted sense of *Indo-Iranian*, i. e. to denote the Asiatic sub-division of the Indo-European family. This latter usage, however, is likely to create confusion with its much more frequent use in the wider signification of Indo-European³.

¹ The forms of the original language can only be arrived at approximately, and may often be wrongly inferred; as would probably be the case if Latin were lost and had to be recovered by comparison of the Romance languages. But to be of any value for illustration they must be conceived as having had a real existence.

² *Sanskritic* might suggest the idea that all Indo-European languages are derived from Sanskrit; *Japhetic*, from the Hebrew point of view of the three ancestors of the human race, would include tribes in Northern Europe and Asia who speak Turanian languages; *Mediterranean* refers only to one phase in the history of Indo-European nations, and the central position once occupied by, but now no longer belonging to, the people who spoke these languages; and *Caucasian* implies the reverse of truth, for it seems clear that no Caucasian tribes, with the exception of a small colony at Iron (? = Aryan), belong to Indo-European races.

³ The term *Aryan* has the advantage over *Indo-European* of being short and (as a word of foreign origin) of lending itself more easily to any technical definition that may be assigned to it: and as a mere ticket or label of classification, there is no doubt much to be said for its use. I should not therefore presume to discard it altogether; but I still think that the fact implied on the face of the term *Indo-European* (a term sanctioned by the high authority of Bopp) is a good reason for on the whole preferring this latter term. The existence too of another and more limited use of the term *Aryan* (as = Asiatic or Indo-Iranian) is somewhat

The languages comprising the Indo-European (or Aryan) family may be arranged thus in three main divisions:—

Subdivisions
of the Indo-
European
family.

A. Asiatic Division:—

I. *Indic*.

- a. Sanskrit, the ancient literary language of the Vedas, or sacred books of the Hindús: Prakrit (including Pali, the sacred language of the Buddhists in Ceylon) being the provincial dialects of the mass of the community¹.
- b. Modern Indian dialects, Hindi, Bengali, Mahratti, etc.

II. *Iranic*.

- a. Zend (or Old Bactrian), the language of the Zend-Avesta or sacred books of the religion of Zoroaster.
- b. Old Persian, of the 'cuneiform' inscriptions.
- c. Pehlavi or Huzvareh, the language of translations of the Zend-Avesta and coins of the Sassanidae; much subject to Semitic influence.
- d. Modern Persian.
- e. Armenian, and Kurdic dialects (?).

B. South-West European Division:—

III. *Hellenic*.

- a. Ancient Greek.
- b. Modern Greek.

against its acceptance as *the* technical term for the whole family of languages. It is, however, retained by some philologists as a collateral term with *Indo-European*. For the origin and uses of the term *ārya* I need only refer to Prof. Max Müller's Lectures, I. vi. pp. 224-236, 1st edition. [I am glad to find, what at the time this note was first written I did not know, that I have the support of Mr. Peile in preferring 'Indo-European' ('Introduction,' p. 34, 3rd edition).]

¹ The word 'Sanskrit' (Sanskṛita, संस्कृत = *confectus, constructus*) means what is rendered 'fit' or 'perfect,' i. e. for sacred purposes; hence 'purified,' 'sacred,' 'Prakrit' (Prākṛita, प्राकृत = 'derived' or 'secondary') is the term applied to the spoken dialects which gradually rose out of Sanskrit as from a source or type (*prakṛiti*), by the natural process of change and corruption which the pure Sanskrit underwent in its adaptation to the exigencies of a spoken dialect. The various modifications of Prakrit are the links which connect Sanskrit with the modern dialects of Hindustan. It should be noted that there is a large body of Prakrit (or non-Vedic) literature included under the general term Sanskrit; the older Sanskrit literature being generally specified as 'Vedic.'

IV. *Italic.*

- a. Latin, Oscan, Umbrian, the three dialects of ancient Italy.
- b. The modern 'Romance' (or 'Romanic') languages ; viz. Italian, Spanish, Portuguese, Provençal, French, Wallachian, Romansch.

V. *Keltic.*

- a. Cymric or Armorican, including Cornish, Welsh, and the dialect of Brittany.
- b. Gadhelic, including Gaelic, Erse, and Manx.

C. North-West European Division :—

VI. *Slavonic.*

- a. Lettic—Old Prussian and Modern Lithuanian.
- b. Slavonic Proper—Bulgarian, Russian, Polish, Bohemian, Servian.

VII. *Teutonic.*

- a. High German (spoken in the upper countries of the Rhine, Main, and Neckar), including Old High German, Middle High German, and Modern German.
- b. Low German (in the Lowlands of North Germany, Holland, and Belgium), including (1) Gothic, Anglo-Saxon, and English; (2) Old Saxon and Frisian, and Dutch.
- c. Scandinavian — Old Norse and Modern Icelandic, Swedish and Danish.

Comparative antiquity and order of separation from primitive stock.

Of these sub-divisions the Asiatic (A) contains most that is ancient in sounds and fabric of language, and fewest strongly-developed individual forms. The South-West European (B) stands next in this respect ; while the North-West European group (C) shows most individuality of development, and fewest remains of a common stock. The diffusion of this common stock under all these different forms over the Continent of Europe is generally recognised as the result of successive migrations westward from the original home of the Indo-European or Aryan nations in

TABLE OF THE INDO-EUROPEAN FAMILY OF LANGUAGES.

(Those above the horizontal line are *dead* languages, those below it living or spoken languages.)

| ASIATIC. | | S.W. EUROPEAN. | | | N.W. EUROPEAN. | |
|---|---|--|---|---|---|--|
| <i>I. Indic.</i> Sanskrit, Prakrit ¹ , Pali. | <i>II. Iranian.</i> Zend. Cuneiform In- scriptions. | <i>III. Hellenic.</i> Classical Greek Dialects: Ionic, Doric, Aeolic, Attic. | <i>IV. Italic.</i> Ancient Italian Dialects: Oscan, Umbrian, Latin. | <i>V. Celtic.</i> 1. <i>Cymric</i> : Cornish (lately extinct). | <i>VI. Slavic</i> (and <i>Lettic</i>). Old Bulgarian (or ² Church Slavic). — Old Prussian ³ . | <i>VII. Teutonic.</i> 1. Old High Ger- man. 2. Gothic, Anglo-Saxon, Old Saxon. 3. Old Norse. |
| Modern Indian Dialects: Hindi, Bengali, Maharatti, etc. Gipsy Dialects (Hindu <i>peoties</i>). | Modern Persian, Armenian, Kurdish, Afghan ⁴ . | Modern Greek. | 'Romantic' Lan- guages: Italian, Spanish, Portuguese, Provençal, French, Wallachian, Romanesch. | Welsh. Breton. Gaelic: Erse, Manx. | Bulgarian. Russian. Polish. Bohemian. Serbian. — Lithuanian. Livonian (or Let- tish) ⁵ . | 1. German. 2. English, Frisian, Dutch, Flemish. 3. Icelandic, Swedish, Danish. |

¹ Prakrit, the provincial corruption of the purer Sanskrit of the educated classes, preserved chiefly in some of the Sanskrit dramas.
A Prakrit dialect, Pali, is preserved as the sacred language of Buddhism.

² The Afghan is by some considered an Indian dialect.

³ The language of N. E. Prussia, extinct for the last 200 years, and only surviving in a short catechism.

⁴ Spoken in Kurland and Livonia.

Central Asia¹: and this being so, the phenomena just noted lead us to infer that the first to separate and lose connection with the parent stock were the ancestors of the nations comprised under group (C); that these were followed by the ancestors of those under group (B); the 'Aryan' proper comprised under group (A) alone remaining East of the Ural Mountains. This inference from the phenomena of language is borne out by the geographical position of the different branches of the race. If we take a map, we shall find that, as a general rule, the more eastward the position of an Indo-European people, the more traces of what is old and common to other languages of the same family are retained in its language; while the further north-west and west they have gone, the less of what is old and the more new formations does their language retain. Nor does the westernmost position of certain languages in the group which stands second in order of separation (e. g. the French, Spanish, and Keltic), interfere with the truth of this general statement; such position being due to special historical causes, e. g. the spread of the Roman Empire to the Atlantic Ocean, and (in the case of Keltic) the gradual pressure of the Teutonic nations, driving the Kelts further and further westward. These Kelts, whom we meet with as the conquerors of Rome under Brennus (B.C. 390), and 100 years later as the invaders of Macedonia and Greece, and of whom Herodotus speaks as dwelling in the extreme west of Europe², apparently in Spain, must have spread into

¹ It must, however, be remembered that the evidence of successive order of separation, furnished by the closer relationship of particular dialects, is at the best vague, and the conclusions drawn from them indefinite and uncertain, so far as anything like the establishment of a historical order of separation is concerned. If it can be shown that Latin is most closely connected with Greek, it can, on the other hand, be shown that in many respects Greek is most closely connected with Sanskrit: and probably all that it is really safe to affirm is that the various dialects of the Indo-European family after a long continued community separated gradually, until under different circumstances they established their respective national independence.

² Hdt. ii. 33, iv. 49. He speaks of them as *ἐξω τῶν Ἑρακλήτων στηλέων*, and (after a tribe called *Κίνηται*) *ἔσχατοι πρὸς ἡλίου δυσμέων τῶν ἐν τῇ Εὐρώπῃ*. His language is that of a man living on the shore of the Mediterranean, to whom all knowledge of these western countries came from people who had sailed *through* the Straits of Gibraltar, *outside* the so-called

Switzerland and Tyrol; and, after occupying Gaul, Belgium, and Britain, were driven by pressure of the Teutons to the extreme north and west of Gaul and the British Islands, where their language has survived to our own day, though gradually disappearing (like Cornish) under the influences of increased communication with the mass of the English-speaking population. Some philologists, indeed, take a different view, and maintain that, looking to the *present* distance from the original home of the respective Indo-European nations, the Kelts must have been the *first*, and the Slavonians the *last* to move westward; and that the Slavonians, finding the rest of Europe occupied, were forced to make their new home in its northern and eastern regions. This *may* be so; but in the absence of history, language (which has been called 'fossilised history') is our best guide; and language seems to postulate a longer separation from the primitive stock in the case of the Teutonic and Slavonic groups than for any of the others.

The following diagram (adapted from Schleicher's 'Compendium') will illustrate the successive migration and bifurcations of the Indo-European family — the separations being indicated by lines striking *downwards*, and the degree of separation or proximity by greater or less deflection from the uppermost line¹. The vertical order of the column to the right hand corresponds to the horizontal order of the previous Table.

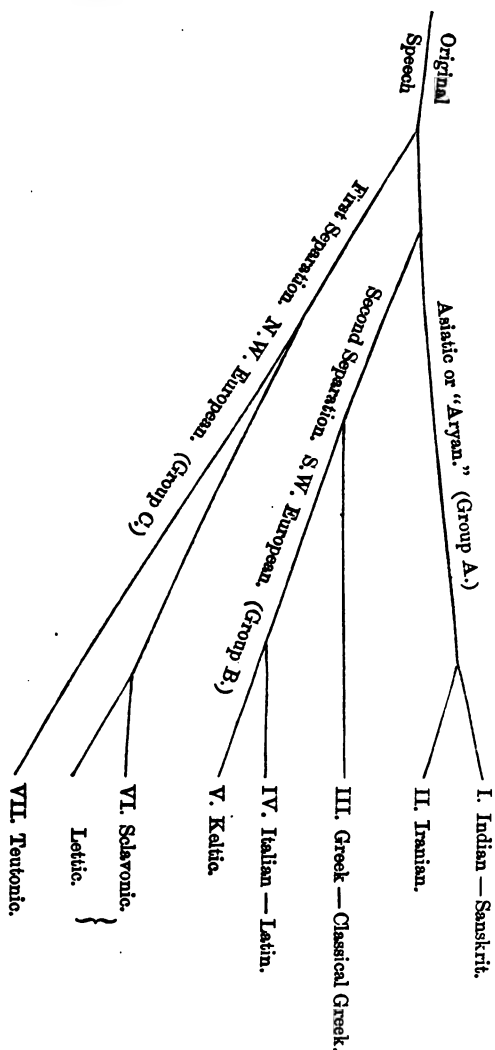
'Pillars of Hercules.' For other examples of Herodotus' relative use of terms 'from a Mediterranean point of view,' compare i. 6, ἐνδὸς Ἄλυσος ποταμοῦ: i. 74 (of the Halys), πέραν ἄνω, and an instructive note to the latter passage in Woods' edition ('Catena Classicorum' series).

¹ Schleicher's diagram is possibly open to modification, in respect of the position assigned by him to Keltic. He believes in a 'Graeco-Italo-Keltic' period, marked by the division of the *a* sound into *a*, *e*, *o*, and (after the separation of the Greeks) in an 'Italo-Keltic' period marked by loss of aspirates, retention of spirants, and loss of the old middle voice; while finally, after separating from the Italians, the Kelts lost the ablative and reduplicated perfect. Other philologists, however, connect Keltic with the North European languages, tracing a general analogy (e.g. in the number of diphthongal sounds, being *four* in Keltic and Teutonic, but *six* in Hellenic and Italic dialects) between Slavonic, Teutonic, and Keltic. The arguments on both sides are briefly but clearly stated by Mr. Peile ('Introd.' pp. 27, 28, 3rd edition), who inclines upon the whole to Schleicher's view.

Relation-
ship of San-
skrit, Greek,
and Latin.

On looking down the right-hand column, we find that the three first languages of which any considerable literature re-

TABLE OF DIVERGENCE OF THE DIFFERENT BRANCHES
OF INDO-EUROPEAN FAMILY.



mains are *Sanskrit*, *Greek*, and *Latin*, all 'dead' languages, embodied in their respective literatures, not subject to the

constant changes of spoken languages, and therefore retaining a more complete inflectional system than any other languages known to us, though even in them the inflectional system is already in a state of decay. These three languages thus form the basis of philological enquiry for the Indo-European branch of human speech; and for the illustration of the inflectional system of any one of them, the three together furnish all or nearly all the available data. It is important to understand clearly their relationship, as parallel branches of a common stock, in the same generation of the genealogical tree. They are sisters, or at furthest cousins; and are not in any sense derived from each other. Latin is not *derived* from Greek, neither is Greek or Latin *derived* from Sanskrit, in the sense in which the modern Romance languages are 'derived,' i. e. descended from, classical Latin. This relationship may be proved by internal evidence from any of the languages given in our Table. Thus Greek *ἀστήρ*, Latin *stella* (= *ster-ula*), German *stern*, English *star*, must be fuller and therefore older forms than Sanskrit *tāra*, in which the initial *s* has been lost¹. Or again, if we take the grammatical forms, e. g. of *εἰμί* [Sanskrit *aami*, Latin *sum*], we shall find that in 1 sing. Latin *sum* retains the *s* of the root *as* (*es*) which Attic Greek *εἰμί* has lost; in 2 sing. Aeolic Greek *ἔσ-σῖ* is more perfect than Sanskrit *asi*; in 1 plur. Greek *ἔσ-μέν* retains the full root *es* (*as*) as compared with Sanskrit *smas*, while the Latin termination *-mus* (Sanskrit *-mas*) is older than Attic Greek *-μεν*, the older dialects preserving *-μες*: in 2nd plur. Latin *estis* is the most complete form, Greek *ἐστέ* the next, Sanskrit *stha* the most mutilated, having lost both initial and final letter; in 3 plur. Latin *sunt* (Sanskrit *santi*) is fuller than the oldest dialectical form in Greek [*ἐντί* Doric and Aeolic], from which the root *es* has entirely disappeared—much more so than the still more weakened form *εἰσι*. The Teutonic languages retain a correspondingly stronger form than Greek, in German *sind*. French *sont*, Italian *sono*, Spanish *son*, are modifications of *sunt*. A similar comparison

¹ In the Veda is found a fuller form, *star* or *stri*.

of grammatical forms is employed by Professor Max Müller (Lectures, Series I. Lect. v), to refute the theory that French, Italian, and Spanish are derived from the Provençal language, which is, according to that theory, the only true 'daughter' of Latin. French *sommes*, *êtes*, *sont*, besides Provençal *sem*, *etx*, *son*, are justly pointed to as fatal to such a theory.

Evidences
of relation-
ship be-
tween lan-
guages.

It may be well to subjoin a few specimens of that correspondence between the Indo-European languages which is at once the evidence of their relationship and the basis of their classification into families. The evidence is twofold, (a) in vocabulary, (b) in grammatical structure.

(a) In vocabulary, it is easy to find in any two of these languages numbers of common words, and to prove them all related by proving each one related with each of the rest in succession—Latin with Greek, Greek with Sanskrit, Slavonic with German, and so on. But for words identical in all or nearly all branches of the family, we are restricted to such special classes of words as *numerals* and *pronouns*. These appear to have been less varied by multiplication and substitution of synonymous terms than any other class of words—except, perhaps, the terms indicating degrees of near relationship, *father*, *mother*, *daughter*, *brother*, etc.; and hence all the Indo-European nations, however widely separated, and however different in manners and civilisation, count with the same words and use the same pronouns in individual address; allowance, of course, being made for the changes brought about by the phonetic laws of individual languages.

(b) Stronger still is the evidence of correspondence in grammatical structure, as shown in a common system of word-formation, declension, and conjugation. This portion of language is that which, in the case of intermixture of languages, by the adoption into one language of terms belonging to another, most resists any trace of intermixture. A foreign word admitted to citizenship in another language is declined or conjugated on the system of the language which has adopted it; and the study of language offers no trace of a mixed grammatical apparatus in the same language. This being so, uniformity of grammatical

structure in a number of distinct languages must be one of the strongest proofs of their substantial unity.

The table on p. 20 exhibits specimens of the correspondence, in vocabulary and inflection, of the Indo-European languages:—

The most familiar illustration of a 'class' of languages, and on the whole the most instructive attainable example of dialectic growth, is to be found in the modern 'Romance' or 'Romanic' languages, so called as being all descended from the 'Lingua Romana,' spoken in the different provinces of the Roman Empire. In these we have not only a body of highly cultivated languages, each with its subsidiary dialects, and evidently sprung from a common stock; but we have also, what we have not in the case of the great Indo-European group, the mother language, the 'Ur-sprache,' from which they have all sprung; and we can trace historically, with tolerable accuracy, the processes of change and divarication which have produced them. They all rose about the same period of the Middle Ages, out of the condition of local *patois*, the result of illiterate provincial corruptions of the Latin of ordinary popular pronunciation, which even in classical times had differed in many respects from the literary dialect of Rome, and had degenerated still farther and faster when the decline of literature took away the only check upon arbitrary pronunciation and erroneous grammar. In the provinces upon which the Roman conquerors imposed the use of the Roman language¹, that language was subject in its use to all the innovations produced by ignorance, caprice, or the purely physical causes which dispose the vocal organs of different nations to different sounds. When therefore the various nationalities of modern Europe

¹ In Britain, though a Roman province for 400 years, the Roman civilisation was too partial (being confined to the towns) to leave its impress in the use of the Roman language, which in Gaul and Spain survived the conquest of those countries by Teutonic invaders. 'What strikes us at once in the new England,' says Mr. Green, 'is that it was the one purely German nation that rose upon the wreck of Rome. In other lands, in Spain, or Gaul, or Italy, though they were equally conquered by German peoples, religion, social life, administrative order still remained Roman. In Britain alone Rome died into a vague tradition of the past.' ('History of the English People,' ch. i. sect. ii.)

Table of Correspondence between Members of the Indo-European Family of Languages.
A.—VOCABULARY.

| | I. Sanskrit. | II. Greek. | III. Latin. | V. Slavonic. | | Anglo-Sax. | German. | Dutch. | Danish (Scandinavian). | English. |
|--|--|---|---|---|---|---|--|--|--|---|
| | | | | IV. Vedic (Keltic). | Old Slav. | | | | | |
| Numerals: | ekas* (eka-) dvau (dva-) 3 4 5 6 7 8 9 10 | εἷς δύο τρεῖς τέτταρες πέντε ἑξήκοντα ἑπτά ὀκτώ ἐννέα δέκα | unus duo tres quatuor sex septem octo novem decem | un dau tri pedwar pump seith ocho naw deg | yedno dova tri kétoriye pamté sedné seim' deviat' desiat' | ain twa thri feover fif six seofon cahta nigon tyu | ain(s) zwei drie vier fünf sechs seven acht neun zehn | een twee drie vier vijf zes zeven acht negen tien | een to tre fire fem syv otte ni ti | one two three four five six seven eight nine ten |
| Pronouns: | mā-m or mā tvām or tvā mātā (mātri) bhūtā dubhā dantāḥ (dat-) | ἐγώ, ἐγώ σύ, σύ μήτηρ φάτηρ θεός = θεός φίλιος, φίλος πῦρ-ος | me tu mater frater dens video | mā ty mater brat duktar danti | mā, menia fil mater brat dochy wiedati | (meo) me thu | mich du | moeder broeder dochter tand | modhir brodhir dotir tand | me thou mother brother daughter tooth |
| Root VID (know) GNA " | veda (I know) | φίλιος, φίλος πῦρ-ος | video | znati | | toth wissen onáwan | wissen { kennen knan O.H.G. | | | wit know |
| Verb: 1 sing. " " " " 1 plur. " " " " | as-mi asi as-ti s-mas s-gha santi | εἰμι, εἶμι εἶμι εἶμι εἶμι εἶμι εἶμι | sum es est sumus estis sunt | -m yeamé yeai yesté yemo yeste somté | esmi essi esti esmi este esti | | | | | am art is are |

B.—INFLECTIONS [Verbal].

Lithuanian.
is = ismi
is = esti
is = esti
(sium)
(sijut)
sind
sind

N.B.—In the case of Noun Inflections the correspondence can only be fully traced in those 'dead' languages which are fixed and embodied in their respective literatures, viz. Sanskrit (and Persian), Greek and Latin (see p. 17). The analytical tendency of language has, generally speaking, as in English, substituted prepositions for inflections, the latter having become so worn down as to be unrecognisable. Even German, which has retained more than any spoken language of our own day its noun inflections, shows symptoms (in the 'new' declension) of a tendency towards uniformity of all cases, ~~as in English~~ accept the nominative.

began to take shape and cohesion out of the chaos of the Middle Ages, the dialects of the Latin-speaking peoples, in what had been Roman provinces, had sufficiently diverged from each other to form the starting-point of so many distinct languages, each with its own national peculiarities, but with strongly marked traces of their common origin—in vocabulary, in inflection, and in grammatical structure—running through them all. The following brief summary, given by Professor Whitney (*'Life and Growth of Language,'* pp. 183, 4), enumerates the Romanic group with sufficient precision:—*'Fragments of French are the oldest, coming from the tenth century; its literature begins one or two centuries later; the earliest Italian, Spanish, Portuguese, are from the twelfth, or hardly earlier. These four are the conspicuous modern members of the group. But there was also, in the eleventh to the fourteenth centuries, a rich literature of the chief dialect of Southern France, the Provençal, which, except for a recent sporadic effort or two, has ever since been unused as a cultivated tongue. There exists, too, in the northern provinces of Turkey, in Wallachia and Moldavia, a broad region of less cultivated Romanic speech, witnessing to the spread of Roman supremacy eastward: it is destitute of a literature. Moreover certain dialects of southern (S. and S. E.) Switzerland are enough unlike Italian to be ordinarily ranked as an independent tongue, under the name of Rhaeto-Romanic or Rumansh.'* This last is the dialect spoken in the Grisons, and met with by English travellers in the Engadin.

Full materials for the philological study of the Romanic languages are available in the *'Grammatik der Romanischen Sprachen'* of Professor Diez¹, than which (says Professor Max Müller) *'nothing can be a better preparation for the study of the comparative grammar of the ancient Aryan languages.'* Subjoined is a table (compiled from this work) of comparative forms in the six languages examined by Diez (viz. those above-mentioned with the exception of Rumansch); these languages

¹ A French translation of Diez' Grammar is better arranged than the original, and contains additional matter supplied by Prof. Diez himself and incorporated by the translators.

being placed in the order of (upon the whole) nearest resemblance to the Latin original. The evidence of relationship needs no further comment; and it must be borne in mind that the relationship to each other of the various branches of the Indo-European family is precisely analogous to that of these Romanic languages to each other; and that the evidence for it in the two cases is different not in kind, but only in degree, in proportion as the divarication of dialects has in the one case been wider and longer, and historical observation of their phenomena less attainable.

The transmutation of Latin into its derivative languages, illustrated by the table on pp. 24, 25, exhibits certain features of change from 'analytic' to 'synthetic' languages, the germ of which can be traced even in classical Latin. We shall have occasion, in treating of changes and modifications of sounds (chap. iv), to notice the course of changes in the form of words, which are constantly at work in every spoken language, and the laws of phonetic change following the universally observed tendency to secure ease in articulation at the expense often of clearness. The formative suffixes of nouns and verbs—*Inflections*—were the parts which were first affected. Originally distinct elements with a meaning of their own, and a clear etymological connection with important elements of the language, especially the pronouns, they have become in the language of Cicero and Virgil so far worn away as to appear in many cases mere unmeaning terminations in the written language, and in all probability still less recognisable in popular pronunciation of everyday life. This rubbing away of the distinctive suffixes by which grammatical relations were expressed, naturally led to difficulties in retaining the right discrimination, e. g. of case and tense, and to substitution of other expedients for expressing such distinctions.

(i.) *Case inflections gave way to prepositions.* This process is gradually at work in all languages, from the earliest stage, which is the richest in inflections. As the *analytical* tendency of language (getting rid of inflections and substituting separate words for each part of a conception) advances, prepositions are

more and more developed to give precision to the obliterated forms and extended meanings of case-endings. In Greek and Latin (as the form of many of them indicates) they were originally *adverbs*, serving to define more clearly the meaning which belongs to the case-ending by itself: and as the requirements of language become more complicated, they become more and more necessary to distinctness and accuracy in language. Hence they are often used in prose where they would be omitted in poetry¹; and it is always the case which determines the meaning of the preposition, not *vice versa*.

In modern Greek, and in the derivatives of Latin, prepositions have almost superseded cases; and the growing tendency to use them appears in the New Testament, where they are far more numerous than in classical Greek²; and in e. g. the practice of the Emperor Augustus³, who made use of them in order to speak as clearly as possible. We are told that he preferred to say 'impendere *in aliquam rem*,' 'includere *in carmine*' (instead of 'alicui rei,' 'carmine'). The tendency is found often enough in earlier times, e. g. '*ad carnificem dare*' (Ter.), '*Fulgorem reverentur ab auro*' (Virg.).

(ii.) From the difficulty of retaining distinctions of tense comes the use of active *auxiliary verbs*. In the passive voice *sum* was always so employed; and traces of a similar use, e. g. of *dare*, are found in phrases like *inventum dabo*, Ter. And. iv. 1. 59, *vasta dabo*=*vastabo*, Virg. Aen. i. 63; ix. 323. *Habere* and *tenere* (*avoir, avere*; Spanish *tengo, tenere*) must have been so used in the provincial speech of the later Empire; we have perhaps an anticipation of this in the classical *expertum, cogni-*

¹ e. g. *ab, ad*, with ablat. or accus. of motion; or *ab* with 'ablativus agentis.'

² e. g. ἐσθίουσιν ἀπὸ τῶν ψυχίων, 'eat of the crumbs,' where classical Greek would employ the 'partitive genitive' alone. See Farrar's Greek Syntax, pp. 86, 87.

³ 'Præcipuam curam duxit sensum animi quam apertissime exprimere; quod quo facilius exprimeret, aut nec ubi lectorem vel auditorem turbaret et moraretur, nec prepositiones verbis addere, neque conjunctiones iterare dubitavit, quæ detractae afferunt aliquid obscuritatis etsi gratiam augent.' Suetonius, 'Vita Octaviani,' lxxxvi.

N.B. The last words of this quotation recognise the fact that analytic languages gain in accuracy what they lose in conciseness.

TABLE OF CORRESPONDENCE BETWEEN

| Words and Forms Compared. | | Latin Original. | I. Italian. | II. Spanish. |
|---------------------------|--|--|---|--|
| Article. | Nom. S. Gen. S. Nom. Pl. | ille, -a (used in late provincial Lat.as Article) | il ¹ , lo (masc.), la (fem.) del, dello, della i, gli, le | el, la, lo (neut.) del, de la, de lo los, las |
| Declension. | Nom. S. Nom. Pl. | { corona, -as annu-s, -i flos, flores } | coron-a, anno, flor-e coron-e, anni, flor-i | coron-a, añ-o, flor coron-as, añ-os, flor-es |
| Numerals. | 1 2 3 1000 | unus, -a duo tres mille | uno, una due tre mille, pl. mila | uno, una dos, duas tres mil |
| Personal Pronouns. | Nom. S. Nom. Pl. Gen. Pl. | ego, tu, ille nos, vos, illi { nostrum illorum } | io; tu; egli, ella noi; voi; egli, ella di noi, voi; loro | yó; tu; el, ella, ello nos; vos; ellos, ellas de — — — |
| Verbs. | Pres. Indic. { Sing. 1 " 2 " 3 Pl. 1 " 2 " 3 Imperfect Preterite { 1 S. rite { 2 S. Plup. Subj. Gerund Infinitive | canto canta-s canta-t canta-mus canta-tis canta-nt canta-bam canta-vi cantasti cantassem cantando cantare | cant-o, vend-o cant-i, vend-i cant-a, vend-e cant-iamo, vend-iamo cant-ate, vend-ete cant-ano, vend-ono cant-ava, vend-eva cantai, vendí cantasti, vendesti cantassi, vendessi cantando, vendendo cantare, vendere | canto, vendo canta-s, vend-es canta, vend-e cantamos, vend-emos cantais, vendeis cantan, venden cantaba, vendia canté, vendi cant-aste, vendiste cant-ase, vendiese cantando, vendiendo cant-ar, vender |
| Auxiliary Verbs. | used in active voice used in passive voice | { habeo habemus sum sumus | ho cantato abbiamo cantato sono stato siamo state | he cantado hemos cantado soy cantado somos cantados |

¹ il, lo are the two syllables of *ille*.

THE 'ROMANIC' LANGUAGES DESCENDED FROM LATIN.

| III. Portuguese. | IV. Provençal. | V. French. | VI. Wallachian. |
|---|---|---|---|
| o (masc.), a (fem.) do, da os, as | lo, la del, de la li, las | le, la (Old F. li) du, de la (" del) les, les | -l, -le (suffixed) a ⁴ — lui " i |
| coro-a, anno, flor coro-as, anno-s, flore-s | coron-a, ans, flor-s coron-as, an, flor | couronne, an, fleur couronne-s, an-s, fleur-s | coron-e, an, floare corone, an-i, flor-i |
| hum, huma dous, duas mil | uns, una dúi, duas trei, tres mil, pl. mila | un, une (Old F. uns) deux (" dous) trois (" treis) mille (" mil) | un, una (o) doi (doo, doao) trei mie, pl. mii |
| eu; tu; elle, ella nos; vos; elles, ellas de — —; dalle, dellas | ieu; tu; elh, elha nos; vos; elhs, elhas de — —; de lor | je; tu; il, elle nous; vous; ils, elles de — —; d'eux, d'elles | eu: tu; el, ia noi; voi; ei, ia-le al nostru, vostru; alor |
| canto, vendo cantas, vendes canta, vende cantamos, vendemos cantais, vendeis cantão, vendia cant-ava, vendia cant-ei, vendi cant-aste, vendeste cantasse, vendesse cant-ando, vend-endo cant-ar, vend-er | chant-i, vend-i chant-as, vend-es chant-a, vend chant-ám, vend-ém chant-atz, vend-etz chant-an, vend-on chantava, vendia chantel, vendei chant-est, vend-est chant-es ² , vend-es chant-an, vend-en chant-ar, vend-re | chante, vend-s chant-es, vend-s chant-e, vend chant-ons, vend-ons chant-ez, vend-ez chant-ent, vend-ent chantais, vend-ais chant-ai, vend-is chant-as, vend-is chant-asse, vend-isse chant-ant ³ , vend-ant chant-er, vend-re | cunt, vind cunt-zi, vinz-i cunt-é, vind-e cunt-ém, vind-em cunt-atzi, vind-etzi cunt-a, vind cunt-ám, vind-eam cunt-ai, vind-ui cunt-asi, vind-usi cunt-ásem, vind-túsem cunt-und, vind-und cunt-a, vind-e |
| tenho ¹ cantado temos cantado so cantado somos cantados | ai chantat sui chantatz sem chantat | ai chanté avons chanté suis chanté sommes chantés | am cūntat am cūnt |

¹ i.e. *teneo*. Spanish also uses the corresponding *tengo* as an auxiliary.² A fuller form is retained in 2 sing. *chantesses*, and in plur.³ In phrases like *en voyant*.⁴ The preposition before, the article after the noun.

tum habeo. The passive auxiliary construction with *sum*, etc. is obtained by an easy resolution of any tense in that voice: but the propriety of the active *habeo* or *teneo* is not so obvious. It may, however, have been extended by analogy from cases in which such analysis was correct to others in which it could not be so employed with strict accuracy.

(iii.) Next to these changes, founded on pronunciation and on the substitution of prepositions and auxiliary verbs for noun and verb inflections, the usage of the definite and indefinite article seems the most considerable step in the transmutation of Latin into its derivative languages. The development of the definite article from a demonstrative pronoun, which is seen in the Romanic forms *il*, *lo*, etc., derived from Latin *ille*, took place in Greek at an early period, but within historical observation¹; for we see it beginning in the Homeric poems in the use of the form δ as demonstrative, but in certain collocations suggesting its later use as definite article, e.g. $\eta\ \delta'\ \alpha\rho'\ \alpha\mu\epsilon\iota\beta\epsilon\tau\omicron\ \Pi\alpha\lambda\lambda\acute{\alpha}\varsigma\ \Lambda\theta\acute{\eta}\nu\eta$, etc. The Greek language thus gained an important element of precision, and facility for the combination and grammatical handling of abstract ideas, e.g. by the article with infinitive or neuter adjective; and though little or no attempt seems to have been made in the literary dialect of Rome to create a corresponding means of precision by an analogous employment of the Latin demonstrative pronoun, there are not wanting signs that the necessity for it was felt and partly acted upon in popular language, by the employment of *ille* and *unus* with the force of a definite and indefinite article respectively². Were this not the case, the evidence of the Romanic languages would be sufficient proof that, at all events in the provincial idioms of the later Empire, this usage had become more or less established. The same development of

¹ On the history and usages of the Greek article see Curtius' Greek Grammar, §§ 365-391; Clyde's Greek Syntax, §§ 3-9. The latter book is a very valuable aid to the student of Greek grammar.

² The theory of grammarians in this matter seems to have gone contrary to the practice of those who spoke and used the language. Quintilian (I. O. i. 4. 19) says, '*Noster sermo articulos non desiderat*'; and Scaliger called the article '*otiosum loquacissimae gentis instrumentum*,' '*articulus nobis est nullus et Graecis superfluous*.'

definite article from demonstrative seems to have taken place in the Teutonic languages; for in German *der* (like *der*, *de*) is demonstrative, relative, and definite article; and in English *that* and *which* are often interchangeable.

For further suggestions upon the relation of the Romanic languages to Latin, the reader may consult Max Müller's Lectures, Series I. Lecture v, and Hallam's Middle Ages, chap. IX. part I.

CHAPTER III.

CLASSIFICATION OF SOUNDS.

Principles
of phonetic
change.

THE division of sounds and of the letters representing them in the alphabets of different languages, according to the organs of the human voice by which the sounds are produced, is the basis upon which enquiries into the mutual connection of languages, and all etymology, must ultimately rest. In tracing the original form or the common element of words or their inflections in one or more languages, we are retracing the course of 'phonetic change;' the changes i. e. in the sounds and the letters representing them, by which, while languages are in daily use as media of oral communication, variety or degeneration from simple and primitive forms has been produced. The principle of this phonetic change is the endeavour, conscious or unconscious, to secure *ease of articulation*. 'All articulate sounds are produced by effort, by expenditure of muscular energy in the throat, lungs, and mouth. This effort, like every other that man makes, he has an instinctive disposition to seek relief from, to avoid: we may call it laziness, or we may call it economy: it is in fact either the one or the other, according to the circumstances of each particular case. It is laziness when it gives up more than it gains; it is economy when it gains more than it abandons.'

Ease of articulation is secured in the majority of cases by substituting a sound easier to pronounce for one which is found difficult—a *weaker* for a *stronger* sound: and (with some few exceptions) it is a safe rule in etymology that harder sounds are

not derived from easier, nor a word which has retained a strong sound from one which exhibits a correspondingly weak sound; nor, therefore, a language in which individual forms retain strong sounds from a language whose corresponding forms retain weaker sounds. Thus (to take a simple instance) such forms as *silva*, *sus*, *video*, *vinum* beside *ῥῆν*, *ῡς*, *ἰδεῖν*, *οἶνος*, go far to prove what has already been demonstrated upon the evidence of inflections (above, p. 17), that Latin cannot have been derived from Greek, having retained in these words the sounds *s* and *v* (*F*), which Greek has lost, or represents only by an aspirate.

But what are *hard* or *strong*, and *easy* or *weak* sounds? and how is the relative strength of sounds determined? Obviously by the physical conditions of their utterance. *Hard* sounds are those which require greater physical effort on the part of the organs of speech, *easier* sounds those which require less effort. The table given on p. 31 exhibits the sounds arranged according to the physical conditions of their production: and without a minute investigation of those physical conditions (for which the student is referred to Max Müller's Lectures, Series II. Lect. iii. on 'The Physiological Alphabet'), a brief statement of them is necessary for the explanation of the terms employed.

The material of speech is breath, i. e. a continuous stream of air from the lungs, modified by the different positions, or interrupted and compressed by various actions of the uvula, tongue, palate, teeth, and lips, which thus become organs of voice¹. If the *glottis*, or aperture through which the breath

Physical conditions of the human voice.

¹ For a fuller description of the instruments of the human voice, see Max Müller's Lectures, Series II. Lect. iii. (pp. 109-114, 2nd ed.), and Farrar's 'Chapters on Language,' ch. vii. pp. 84, 85: 'When we are speaking we are in reality playing on a musical instrument, and a more perfect instrument than ever was invented by man.' 'The larynx, with its cartilages and muscles, forms, in point of fact, a combination of musical instruments; it is at once a trumpet, an organ, a hautboy, a flageolet, and an Aeolian harp. The air passing upwards and downwards through the larynx and trachea forms its analogy with the wind-instruments; the vibration of the *chordae vocales*, its resemblance to the stringed.' See also Dr. Carpenter's 'Animal Physiology,' p. 528; Whitney, 'Life and Growth of Language,' ch. iv. p. 59; Sayce, 'Introd.' I. ch. iv (on Phonology and Sematology).

passes from the *trachea* or windpipe, be fully open, what passes into the mouth is mere breath, made afterwards into sound by the organs of the mouth. If however two ligaments at the sides of the glottis, called *chordae vocales*, approximate to each other so as to narrow the glottis, and vibrate as the breath passes through, this vibration changes the breath into *voice*—makes it vocal sound. And according as mere breath, or vocal sound, is emitted from the windpipe, the same position of the organs of the mouth gives a different result. If it be only *breath* that is checked or modified by their contact or approximation, the sound produced will be what is variously called *tenuis*, 'hard' or 'surd:' if, on the other hand, *voice* or vocal sound be checked by contact or approximation of the organs, the sound produced will be *media*, 'soft' or 'sonant.'

Sounds are divided generally into *Vowels* and *Consonants*. The physiological difference in their formation is as follows:—

Modification of the stream of vocal sound, without interruption or compression by the organs of the mouth, produces *Vowels* (*vocales*, *φωνήεντα*), so called because they have a sound of their own, being various modifications of the vocal sound produced by the 'chordae vocales.' All vowels, therefore, are 'soft' sounds.

Interruption of breath or voice by complete contact, or compression by approximation of the organs, produces *Consonants* (*con-sonantes*, *σύνφωνα*), so called because they have no sound of their own, but must be accompanied with a vowel sound¹. (Thus, in the Sanskrit character the vowel *a* is never written after a consonant, because *a*, the primitive vowel sound, is supposed to be inherent in every consonant.) Consonants are either 'soft' or 'hard,' *tenuis* or *mediae*.

The subjoined table illustrates the classification of Sounds as applicable to Greek and Latin:—

(The Greek and Latin characters are given.)

¹ The Arabic Grammarians call a vowel *motion*, and a consonant a *barrier*, because in forming vowels the voice is not interrupted, whereas in forming consonants it is stopped at certain fixed positions.

TABLE IN ILLUSTRATION OF THE CLASSIFICATION
OF SOUNDS.

| | MUTES 'Explosive' Sounds. | | Aspirate Tenuis. | Nasa's. | SEMIVOWELS: 'Fricative' Sounds. | | | VOWELS. | |
|----------|---------------------------------|--------|------------------|---------|------------------------------------|--------|------------|---------------|---|
| | Tenuis. | Media. | | | Spirants. | | Liquids. | Pri- mary. | Secondary. |
| | | | | | Tenuis. | Media. | | | |
| Guttural | κ c k q | γ g | χ | γ' | · h | · | | α a | } $\begin{matrix} \epsilon \eta \\ e \\ o \omega \\ o \end{matrix}$ |
| Palatal | | | | | | i (j) | | ι i | |
| Dental | τ t | δ d | θ | ν n | σ s | ζ z | λ ρ l r | | |
| Labial | π p | β b | φ | μ m | f | F v | | υ u | |

(*f* and *v* are sometimes classed separately as 'Labio-dentals,' being formed by contact of under lip and upper teeth.)

N.B. In Latin, *c*, *g* represent the hard sound of *κ*, *γ*; *i* (*j*) semivowel, the sound of English *y* in *you*: *υ* (and Greek *F*) that of English *w*.

The vowels in Greek and Latin are pronounced nearly as in Italian. (Cp. the table of the Greek and Roman alphabets, p. 42.)

[Sanskrit, besides the sounds expressed in Greek and Latin, has letters expressing—

'Palatal' mutes, ten. and med. [c ch]; spirant [ç]; nasal [ñ]

'Cerebral'² „ „ „ [ṭ ḍ]; „ [ṣh]; „ [ṇ]

(These sounds are varieties of guttural and dental respectively.)

A complete set of aspirated mutes, tenues, and mediae; e.g. *kh*, *gh*; *ch*, *jh*; etc.

Short and long sounds of all the vowels, + the dental vowel sounds *ri*, *li*.]

¹ e.g. in *ἔγγυς*, *ἀγγελος*.

² Also called 'Cacuminal.'

Classifica-
tion of Con-
sonants—
I. Mutes and
Semi-vowels.

Consonants are classified¹ (see the Table, p. 31)—

I. By the completeness or incompleteness of contact of the 'vocal organs.'

a. *Mutes* (ἄφωνα, *mutae*), where there is a complete interruption of the passage of the breath or vocal sound. These are 'Consonants' proper, having no sound of their own, and depending for articulation upon the vowel sound which follows when the stream of breath or vocal sound is released from the 'check' or interruption. They are sometimes called 'Momentary' or 'Explosive' sounds [*kg, td, pb*].

b. *Semivowels*² (ἡμίφωνα, *semi-vocales*), where the stream of vocal sound is not interrupted by complete contact, but only compressed by approximation of the 'vocal organs,' so that a continuous sound is heard from the friction of the breath or vocal sound against the partially closed organs. They are sometimes called 'Continuous' or 'Fricative' sounds [*s, z, l, r, f, v, etc.*].

II. *Tenuis*
and *Mediae*.

II. By the accompaniment or absence of vocal sound. (See above, pp. 29, 30).

a. *Tenuis*³ (ψιλά, 'voiceless:' also called 'sharp,' 'hard,' 'surd'), when the contact or approximation of the organs takes place with the *vocal chords* (see above, p. 29) wide apart, so that only a whisper takes place [*k, t, p, s, f*].

b. *Mediae*⁴ (μέσα, 'voiced,' also called 'flat,' 'soft,' 'sonant'), when the contact or approximation of the organs takes place with the *vocal chords* close together and vibrating so as to cause sound⁵ during the approximation or contact [*g, d, b, z, v, etc.*].

¹ The teacher will find the comprehension and recollection of these classifications and the terms employed much facilitated by oral illustration, pronouncing himself, and asking his pupils to pronounce, each sound as it is mentioned.

² For the more limited use of this term, see below, p. 35, note 2.

³ *κ, τ, π* were called ψιλά γράμματα ('bald,' 'alight,' or 'thin letters') by the Greek grammarians in distinction from the *aspirates* *χ, θ, φ*, which had a rough or shaggy sound. Hence ψιλῶς γράφειν = to write with a *tenuis* instead of an *aspirate* (βάπυς for βάφυς), Ath. 369 B.

⁴ The *mediae* (μέσα) *γ, δ, β* were so called because they were pronounced by the Greek grammarians with more aspiration than the *tenuis* and with less than the *aspirates*.

⁵ On the general causes of the distinction between *tenuis* and *mediae*,

III. By the part of the mouth at which, and the 'vocal organs' between which the contact or approximation takes place. III. Guttural, etc.

a. *Guttural*, by the back or soft palate (uvula) and root of the tongue [k, g].

b. *Palatal*¹, by the middle or hard palate and the tongue (i. e. the guttural 'check' or contact pushed a little further forward).

c. *Dental*, by the upper teeth and front part of tongue [t, d].

d. *Labial*, by the lips [p, b], or under lip and upper teeth [f, v]. The latter are sometimes classed separately as *Labiodental*.

Somewhat outside of I. and III. come *Nasals* and *Liquids*.

Nasals are a variety of Explosive Mediae: i. e. when the organs are in position for pronouncing g, d, b, but the stream of breath passes into the nose, ng, n, m are respectively produced. Accordingly, if we try to pronounce n or m either holding the nose, or when it is stopped by a cold so that the breath cannot pass that way, the result is the original sound of d or b, e. g. moon becomes bood².

Liquids ('lingual' sounds or 'trills') are caused by the breath passing over the sides of the back of the tongue [l], and over the

see Prof. Helmholtz, as quoted by Max Müller, Lectures, II. iii. p. 131, 2nd ed. The terms 'surd,' 'sonant,' adopted by Professor Whitney ('Life and Growth of Language,' p. 63) and Mr. Sayce (Introd. I. p. 265), are preferable to the more commonly used 'hard' and 'soft,' as being expressive of actual facts.

¹ The various consonantal sounds which in Sanskrit and other languages are called *palatal* are formed by placing the tongue in a position intermediate between the guttural and dental contact, and are modifications, sometimes of gutturals, sometimes of dentals. In Sanskrit they approach nearer the former, and are often represented, the tenuis by English c, ch (in *church*, or Italian *cielo*), the media by j (i. e. as in our pronunciation of *German, George*). Many Sanskrit scholars, however, prefer to denote the palatal series by the guttural signs, k, kh, g, gh, modified either by ' (k', k'h) or by difference of type (k, k; g, g), because this helps them to show the easy transition between e. g. nom. वाक् (vāk) and वाच (vāc) the stem of the oblique cases.

² The following stanza from a *jeu d'esprit*, entitled 'The Lay of the Influenzed,' may serve as an illustration of this:—

'Dever bore bedeath the bood
Shall byrtle boughs edtwide;
Dever bore thy bellow voice
Bake belody with bide.'

This is incorrectly termed 'speaking through the nose.' A person who has a cold ought to speak through his nose, but cannot do so, in pronouncing m or n: and therefore he sounds nearly b or d in attempting to pronounce the nasals m, n.

tip of the tongue [r]. They may be classed with Semivowel [Fricative] sounds, to which they have most affinity.

Aspirates.

Aspirates are variously classed with 'explosive' and 'fricative' sounds. The sound denoted by *h* (*spiritus asper*¹) is a mere expulsion of breath², unchecked by the vocal chords, which remain wide apart without vibrating so as to produce vocal sound. This 'breathing' (to adopt the term familiar in Greek grammar), when it follows an explosive consonant, gives such sounds as Greek χ ($k+h$), θ ($t+h$), ϕ ($p+h$). In pronouncing the tenues *k*, *t*, *p*, the vocal chords are apart and in a natural position for aspiration: but with the mediae *g*, *d*, *b* they are close together, and not in position for aspiration. Hence *gh* ($g+h$), *dh* ($d+h$), *bh* ($b+h$) are more difficult sounds, which perhaps existed in the earliest forms of Indo-European speech, but have only found expression in the Sanskrit and (to a certain extent) in the Keltic languages.

The slight sound or 'breathing' heard before any vowel, and best caught when two vowels come together (e. g. *go over*), is rarely expressed by any sign, except in Greek by the *spiritus lenis* or 'soft breathing.'

If the breath emitted for *spiritus asper* or *lenis* be modified by certain narrowings of the mouth forming barriers which hem it in, various distinct sounds are produced. Eight such 'barriers,' with corresponding modifications of the *spiritus asper* and *lenis*, are enumerated by Professor Max Müller; of which only those for which signs are given in our table of sounds are here given, viz.

¹ The distinction between *spiritus asper* and *lenis* is regarded by Prof. Max Müller as that which is denoted in consonants by the terms *tenues* and *media*, the glottis being in one case open, in the other closed. The Greek terms are *πνεῦμα δαρύ* ('rough breath'), and *πνεῦμα ψιλόν* (breath free from roughness—a merely negative definition).

² Others, however, regard *h* as a genuine consonant, produced very near the glottis, so that it combines very readily with a following vowel, and seems to be produced in the same act of enunciation. Mr. Peile, holding this view, thinks 'that there may be a soft *h* which differs from the ordinary *h* almost as much as any soft consonant from the corresponding hard; and that this soft *h* differed infinitesimally (if at all) from the breath heard after the momentary sound in the original aspirates (*gh*, *dh*, *bh*).'—'Introduction,' pp. 69-73.

1. The barrier produced by advancing the tongue towards the teeth modifies *spiritus asper* into *s*, *spiritus lenis* into *z*.

2. If the lower lip be brought against the upper teeth, the barrier produced modifies *spiritus asper* into *f*, *spiritus lenis* into *v*, as heard in English *live*, *halve*. Hence *f*, *v* are sometimes called 'Labio-dental' sounds.

3. If the lips be slightly contracted and rounded, *spiritus asper* becomes *wh* in *wheel*, *which*; *spiritus lenis* the English *w*, which is apparently represented by Greek *F* and Latin *v*.

These sounds, *s*, *z*, *f*, *v*, etc., are called *spirants*. This name and *Spirants*. the physical fact which it denotes (that the sounds so called are modifications of the 'breathings'), will at once suggest the explanation of such phonetic varieties as *sedes*, *ἔδος*; *sus*, *ῦς*; *sub*, *ὑπό*; or the correspondence of Latin *f* to various aspirate sounds in Greek, e.g. to *φ*, *χ* (*χολή*, *fel*); to *θ* (*θῆλυς*, *femina*, *θήρ*, *fera*); and to *ϕ*, originally *F*, in *ῥιγέω*, *frigus*.

VOWELS AND DIPHTHONGS¹.

1. The three primitive vowel-sounds are *A*, *I*, *U*, (pronounced *Vowels: A, I, U.* as in Italian). Of these *a* is formed nearest to the *guttural* point of contact (with the lips opened wide); *i* nearest to the *palatal*; *u* nearest the *labial* contact, the lips approaching each other.

i and *u* pass into the cognate consonantal (or semivowel²) sounds of *y* and *v* (*w*).

a can pass into no cognate consonantal sound: it is *the* vowel *par excellence*, occurring in Sanskrit³, and probably in the earliest form of Indo-European language, much oftener than *i* or *u*.

¹ For a more elaborate analysis of vowel-sounds than appears necessary to give here, see Peile. *Introd.* pp. 90-100 (3rd ed.); also Bell, 'Principles of Speech,' and 'English Visible Speech for the Million.'

² 'Semivowel' is here used in the limited sense, which often attaches to it, of the consonantal sounds of *i*, *u*. The reader will take note that it has been applied above (p. 32) in a wider sense to the whole class of 'Fricative' consonants, as distinguished from Mutes or Consonants proper. To avoid confusion it would be better either to describe the *y* and *w* sounds as *i* and *u* consonantal, or to give up the wider application of the term to Fricative consonants, but the inconsistency of usage is too confirmed.

³ In Sanskrit *ā* following a consonant is never written, because it is supposed to be inherent in every consonant (e.g. *patara* is written *ptr*); and the Sanskrit alphabet, which has two separate characters for each vowel-sound according as it is initial or in the middle of a word, has no character for *ā* medial.

E, O.

2. *E* and *O* are phonetic variations of the *A* sound¹. If we compare kindred words in Sanskrit, Greek, and Latin, we find that Sanskrit *a* is represented by *a*, *ε*, *ο* in Greek, by *α*, *ε*, *ο*² in Latin, e. g. Sanskrit *navas*, Greek *νέ(φ)ος*, Lat. *novus* = (*novos*); *pitā(r)*, *πατήρ* (= *páter-s*), *pater*; *bharāmi*, *φέρω* (= *φέρω-μι*), *fero*. In some cases the variety secured by this weakening of *a* has been turned to account, to indicate differences of meaning; thus Sanskrit *padas*, which is gen. sing. and acc. plur. of *pad*, a foot³, becomes in Greek *πόδός*, *πόδας*; the Greek thus gaining in distinctness what it loses in strength of sound.

3. When two vowels follow one another so rapidly as to melt into one sound we get a *diphthong*. Of the primary vowels *a* alone can thus form the basis of a diphthong; for *i* and *u*, if a vowel-sound follows, pass into the 'semivowel' sounds of *y* and *v*. *e* and *o*, being varieties of *a*, can also serve as 'diphthongal bases.' We thus get as diphthongal sounds, in Greek *αι*, *αυ*, *ει*, *ευ*, *οι*, *ου*; in Latin *ai*, *au*, *ei*, *eu*, *oi*, *ou*: though, for reasons which will appear afterwards, the Latin diphthongs, with the partial exception of *au* and *eu* in a few words, became weakened to the simple sounds *æ* (*ē*), *ō*, *ī*, *ū*, *œ* (*ē*), *ū*, and we must go back to the archaic remains of the language for such forms as *aidilis*, *deicere*, *foidus*, *joudeæ*.

'Original
vowel.'

4. Another vowel-sound is sometimes added, viz. the indefinite or neutral sound ('original vowel,' 'Ur-laut,' 'Ur-vocal'), variously defined as 'the natural vowel of the reed,' 'the voice

¹ The Indic. single vowel *ā* is supposed by some philologists to be the result of a coalescence of three primitive vowel-sounds, which are denoted (e.g. by Brugman) by the symbols *a*¹, *a*², *a*³. See Sayce, *Introd. i.* p. 309.

² The vowels are originally *short* in quantity (as e.g. in most roots), lengthening being generally the result of 'vowel intensification,' as in *dūco* (root *dūc-*), or contraction, as *amās* = *ama:is*. Vowels which are *naturally* long must be distinguished from vowels which are *naturally* short, but long by position, e.g. *ārma* (*ā*), *nūx* (*ū*). In speaking of vowel-sounds generally we mean (unless otherwise specified) *ā*, *ē*, *ī*, *ō*, *ū*.

³ The accent and quantity of the stem vary in Sanskrit, (*padās*, *pādas*, *pādas*); and the vowel was perhaps modified in pronunciation (see note on p. 6). Accent in Sanskrit is only marked in the Vedas; but it is sometimes desirable to mark it in transliteration, for the light which it throws upon Greek accentuation. See, for instance, Max Müller, 'Selected Essays,' vol. i. p. 142, on *ίμεναι*, *ίέναι*: and below, chap. vi, on the Vocative Singular.

in its least modified form,' etc. This is the sound heard in such words as *but*, *dust*; and it has been said that in such words as e. g. *spurt*, *assert*, *bird*, *fatal*, *dove*, *oven*, *double*, *blood*, but one and the same indefinite vowel-sound is heard. However this may be, there is no doubt an indefinite sound to which *unaccented* vowels in most modern European languages have a tendency to return, e. g. in the last syllable of *beggar*, *nation*, *Paddington*, German *lieben*; or the first syllable of French *tenir*. Physically, it appears to result from leaving the tongue in its most natural position, opening the mouth easily and emitting vocal breath; and it approaches the sound of all the vowels. It is this indistinct vowel, combined with *r* and *l*, that produces the Sanskrit vowel-sounds *ri* and *li* (ॠ, ॡ).

It should be borne in mind that *sounds* are distinct from the signs used to represent them, i. e. the *letters*. The number of possible articulate sounds is greater than any nation ever employs; and the 'alphabet' of some languages will express sounds which that of others does not. Again, the use of letters in time reacts upon sounds. They do not always fit each other exactly to start with; and while pronunciation is always changing, spelling in a literary language becomes more or less fixed. Thus in time letters become symbols of other sounds than those proper to or originally denoted by them, and carry their new sounds into other words or other languages. For example, in the Roman alphabet, which is common to most nations of modern Europe, *c*, *g* representing to a Roman of the classical period the hard sound of *k* or Greek γ^1 before *all* vowels, in the pronunciation of the later Empire and in the languages of modern Europe came to signify different sounds before the vowels *i*, *e*; and these new sounds are carried back by each nation into their pronunciation of classical Latin, leading to such anomalies as the identical pronunciation of *secus* and *caecus*, or the different pronunciations of *locus*, *loci*, *loco*, parts of the same word. Again, *j* and *v* in Latin, the modern repre-

Relation of
sounds to
letters.

¹ The evidence for this statement as to the pronunciation of *c*, *g* will be found summarised in Roby's 'Latin Grammar,' vol. i. Preface, pp. xliii-liv, or Wordsworth's 'Fragments and Specimens,' Introd. ch. iii. §§ 22-28.

representatives of consonantal *i* and *u*, have acquired, and carry back with them into the modern pronunciation of consonantal *i* and *u* in Latin words, quite different sounds from those of our *y* and *w*, which are in reality much nearer representatives of the sounds in question. Whatever, therefore, may be the practical value to modern nations, in reading or pronouncing a dead language, of attempts to reproduce the ancient pronunciation, it is of the utmost importance, for philological and etymological enquiry, to realise as accurately as we can *what sounds*, in the mouths of those who spoke the Greek and Latin languages, are represented by their written character; and this not only for the philology of those languages, but for that of all the modern languages which, as we have seen, are connected with them.

Sanskrit
alphabet.

The only people who have ever attempted to express in their written character almost every known gradation of sound are the Hindús, those who employed the Sanskrit language. The Sanskrit alphabet has fourteen vowels, each (except *ā*) with two symbols, one initial, the other medial; thirty-three simple consonants; and upwards of 400 or 500 compound consonants, of which 133 are given in Professor Monier Williams' Sanskrit Grammar as 'the more common' of such consonants: while Prof. Max Müller (Sanskrit Grammar for Beginners) specifies 257 compound consonants. Sanskrit, in fact, in its whole structure, is an elaborate process of combining letters according to fixed rules. 'Its entire grammatical system, the regular formation of its nouns and verbs from simple roots, its theory of declension and conjugation, and the arrangement of its sentences, all turn on the reciprocal relationship and interchangeableness of letters, and the laws which regulate their internal combination¹.' These laws, too, are the key to the influence which Sanskrit has exercised upon the study of Comparative Philology. That influence is due, not to its being (as is sometimes said) an *older* language—though approaching on the whole nearer to the primitive type whose existence we infer from a comparison of the various branches of the Indo-European family—but to the

¹ Monier Williams' 'Sanskrit Grammar,' Preface to 2nd ed. p. xv.

fact that its elaborate system of phonetic combination of sounds supplies illustrations for the different phonetic rules which determine the variation, in different languages, of the elements common to all. Owing to the transparency of its construction, the nicety of its laws and its great antiquity in many respects, and especially that of its vowel system, Sanskrit was soon found to be more adapted than any other language to open men's eyes to the nature of the connection of all the sister languages: and in the first rejoicings of the students of language over its discovery, its importance was for a time overrated. 'The preposterous idea that Sanskrit must have preserved in every case the oldest form' is now however generally discarded; and those philologists whose labours rest upon the most thorough knowledge of Sanskrit, are the first to allow that even in its sounds there are weaknesses and corruptions peculiar to it which prevent it from serving in all cases as the starting-point for comparison, and even send us to other languages to recover the primitive form. Thus (to quote the remark of Curtius¹), 'now that this language has for a long time served exclusively to throw light on others, the light begins to shine back from the other languages upon Sanskrit.' With this limitation, however, the pre-eminence of Sanskrit as the central point in the study of Comparative Philology may remain accepted; for (to quote again from Professor Curtius), 'the exuberance of the old Indian literature; the antiquity of its most revered monument the *Rig-veda*; the perfection of its alphabet; the remarkable acuteness and diligence of its native grammarians, who have prepared the most valuable assistance for the study of Etymology, if only by their discovery of the conception of roots and their careful index of roots; all these are claims on the part of Sanskrit, which only during the last half-century has become the field of such fresh and important investigations, to retain permanently the prominent position of importance for the study of the whole Indo-Germanic (Indo-European) stock of languages².'

¹ 'Principles of Greek Etymology,' Introd. § 5 (p. 37, English translation).

² Ibid. p. 30.

Appendix to Chapter III.

THE GREEK AND ROMAN ALPHABETS.

Greek
alphabet.

A. Greek Alphabet. It is universally admitted that the Greeks learnt the art of writing from the Phoenicians, with whom, as the chief traders of the Mediterranean, they were brought into contact at an early epoch of their national history. In adopting the Phoenician alphabet they seem to have retained both the forms and the names of its letters, slightly modified, in the order in which they originally stood; the Semitic terms, *Aleph*, *Beth*, *Gimel*, etc., being transformed into names more euphonious to Greek ears, but of course unmeaning except as signs. These names, through the influence of Greek civilisation, have become identified with the practice of writing in all ages and countries; and the word 'Alphabet' (from the first two Greek letters, Alpha, Beta) is a lasting memorial of the obligations of modern literature and science to primitive Oriental ingenuity. The old explanation, that the name of each letter was the name of some familiar object, the first sound of which was the element to be represented, *Aleph* (*A*) being Phoenician for 'ox,' *Beth* (*B*) for 'house' (cp. *Beth-el* = 'House of God,' *Beth-horon*, etc., familiar to us from the Bible), *Gimel* (*G*) for 'camel,' etc., is now discredited; and the Phoenician alphabet is no longer regarded as the *ultimate* source of the world's alphabets, but is itself traced back to an Egyptian source, being in its origin hieroglyphic¹.

The names of the letters were but little changed either in Greece or the East, though their forms must have undergone some alteration. The original community of form between the classical Greek characters and the later Phoenician may be traced in the older inscriptions of the two languages. The

¹ See especially Lenormant, 'Introduction à une mémoire sur la propagation de l'alphabet Phénicien dans l'Ancien Monde' (published 1866).

whole Phoenician alphabet of twenty-two letters was adopted by the Greeks with certain variations of power and order, as appears from the subjoined table¹, in which column I give the Phoenician alphabet, as a representative of sounds, and as a numeral system (this latter usage being also adopted by the Greeks); column II, the whole number of letters ever used by the Greeks in their earliest forms (twenty-one Phoenician, in their original order², and five of native Hellenic invention); column III, the classical Greek alphabet; column IV, the corresponding numeral system; column V, the Roman alphabet, with the probable pronunciation of its different letters.

The old Phoenician alphabet consisted only of consonants; the pure vowel-sounds (like *ā* medial in Sanskrit, p. 35, note 3), being considered as subordinate aids to pronunciation, and included in the power of each consonant. In Greek etymology, however, the vowels were of almost equal importance with the consonants; and required to be as exactly distinguished as these, in a language which depended so much upon poetry and music for its full formation. But for this purpose they had not to invent altogether new characters; for several of the letters of the Phoenician alphabet, though technically classed as consonants, were more properly semivowel in character, and were appropriated by the Greeks to denote the vowel-sounds to which they had respectively affinity. These letters were Aleph, He, Jod, Oin, which were adopted as the simple vowel-sounds *A, E, I, O*;

Phoenician
alphabet.

¹ For the general plan of this Table, and some of the information about the Phoenician alphabet, I am indebted to Col. Mure's 'History of the Language and Literature of Ancient Greece,' Book I. ch. iv. § 8. The information about the Greek alphabet is derived from Kirchhoff's exhaustive little treatise, 'Studien zur Geschichte des Griechischen Alphabets' (Berlin, 1867); that on the Roman alphabet mainly from Corssen.

² The Rev. Isaac Taylor, in his interesting volume 'Greeks and Goths' (Macmillan, 1879), an enquiry into the origin of the Runes of the Gothic 'Futhorc,' gives a table (p. 54) showing three successive types of the Greek alphabet: 1. 'Cadmean,' obtained mainly from inscriptions at Thera and Abousimbul; 2. 'Thracian,' from Thracian coins, pottery at Thasos, and inscriptions at various cities in the Aegean and Greece proper, being the alphabet in use during the fifty years preceding the Persian invasion; 3. 'Attic,' the standard alphabet of the fifth and subsequent centuries—the 'Thracian' alphabet being the parent of the Runes. Whenever the 'Cadmean' differs from 'Thracian' forms, both are given in col. 2. of our Table on p. 42.

TABLE SHOWING THE CORRESPONDENCE BETWEEN THE PHOENICIAN, GREEK, AND ROMAN ALPHABETS.

| I. Phoenician Alphabet and Numerical Value. | II. Full No. of Greek Letters (earliest form ¹). | III. Classical Greek Alphabet. | IV. Numerals correspond- ing. | V. Roman Alphabet. | |
|--|--|---|--|------------------------|----------------------------|
| | | | | Characters. | Probable Pronunciation. |
| 1 Aleph = 1 | Alpha Α | Α | 1 | A | ah |
| 2 Beth = 2 | Beta Β | Β | 2 | B | b |
| 3 Gimel = 3 | Gamma Γ | Γ | 3 | C = K | k (c in cat) |
| 4 Daleth = 4 | Delta Δ | Δ | 4 | D | d |
| 5 He = 5 | E Ε | Ε ψιλόν | 5 | E | ay (a in whale) |
| 6 Vau = 6 | Vau Φ | | 6 (ς') | F (older f') | f |
| 7 Zain = 7 | Zeta Ζ | Ζ | 7 | (G) | g (in give) |
| 8 Heth = 8 | Heta Η | Η | 8 | H = ' | h (in hat) |
| 9 Teth = 9 | Theta Θ | Θ | 9 | | |
| 10 Jod = 10 | Iota Ι | Ι | 10 | I {vowel consonant | ee (in feet) y (in yes) |
| 11 Kaph = 20 | Kappa Κ | Κ | 20 | (K) | k |
| 12 Lamed = 30 | Lambda Λ | Λ | 30 | L (old L) | l |
| 13 Mim = 40 | Mu Μ | Μ | 40 | M | m |
| 14 Nun = 50 | Nu Ν | Ν | 50 | N | n |
| 15 Samech = 60 | Sigma Σ | Σ | 60 | | |
| 16 Ayin = 70 | Ö | Ο μικρόν | 70 | O | o |
| 17 Pe = 80 | Pi Ρ | Π | 80 | P (Γ inscr.) | p |
| 18 Tsade = 90 | M | | | | |
| 19 Koph = 100 | Koppa Ο | | 90 (Φ) | Q (old Φ) | k |
| 20 Resch = 200 | Rho Ρ | Ρ | 100 | R (old Ρ) ² | r |
| 21 Shin = 300 | Xi Ξ | Ξ | 200 | S | s |
| 22 Thau = 400 | Tau Τ | Τ | 300 | T | t |
| | Υ | Υ | 400 | V vowel | oo (in fool) |
| | Phi Φ | Φ | 500 | V consonant | w, or Fr. ou in oui |
| | Chi Ψ | Χ | 600 | X = Ξ | x |
| | Psi (caret) Ω | Ψ | 700 | (Y) | later introductions to |
| | | Ω μέγα | 800 | (Z) | represent Gk. ν, ζ. |
| | | | 900 (ζ) | | |

¹ The Greek characters are originally the Phoenician characters reversed to suit the mode of writing from left to right, which in Greece superseded the earlier right-to-left ('links laufig') writing of the Phoenicians. Examples of this latter method are found in the oldest Greek inscriptions: while in those of the sixth century B.C. is found a mixture of the two modes ('furchenformig' or 'ridge-like') in which the writing is read backwards and forwards in alternate lines, e.g.

Ι Ξ Τ Ι Α
Ω Τ Ξ Η
Π Ο Λ Λ Ω

i.e. Ιστια(ίος)
(ἀνέθ)ηκε τῶ-
πόλλω(νι)

on Olympian inscriptions.

² Tailed R is found in the old Greek alphabet; e.g. on some inscriptions at Olympia.

while Vau, which, on analogy of the others, should have been converted into *U*, retained its original power, as the expression of the consonantal sound of *U*; though it may have served originally for both vowel and consonant sound. A new sign *Υ* or *Ϝ*, expressing the vowel-sound of *U*, took its place at the end of the twenty-two Phoenician letters. No known Greek alphabet, however, is without this sign, or has less than twenty-three letters. The invention, therefore, and adoption of *Ϝ* was probably contemporaneous with the adoption of the Phoenician alphabet: and we may regard the original Greek alphabet as consisting of twenty-three letters, identical with that which appears on the oldest inscriptions of Thera and Melos (circ. 620 A.C.). The Vau (better known under its later name of *δίγαμμα*, from its form *Ϝ*) did not long remain in use, its form being only known to us from early inscriptions. It reappears, however, in the Latin *F*, occupying in the Roman alphabet the place of Vau in the Phoenician, but denoting a different sound.

These five vowel-characters at first denoted both the long and short vowel-sounds, *E* and *O* having besides the functions of the diphthongs *ei*, *ou*, which were not until comparatively late times expressed by combinations of simple vowel-characters. Much earlier, before about 620 A.C., the attempt was made to distinguish long and short *e* by the adoption of a sign *Ϝ* for *ē*, *ε* remaining for *ē* and *ei*. This sign *Ϝ* was apparently a modification of the Phoenician *𐤀* (Heth, Hebrew 'Cheth'), which in its open shape *𐤀* was used to denote the *spiritus asper*. It is also found in the closed shape *𐤁* as aspirate on some early inscriptions discovered at Olympus. *HOΣ* occurs on inscriptions = *ōs*, and *H* stands for *ἐκατόν*: and this usage of course survives in Latin *H*. When *H* was taken as a vowel, it was cut in two so that *⊥* represented the *spiritus asper*, *⊥* the *spiritus lenis*; whence came the signs ' ' for the breathings.

Somewhat later (according to Kirchhoff, about 550 A.C.) arose the distinction between *ō* and *ō*, by the introduction of a new character *Ω*¹, which took its place at the end of the alphabet,

¹ *Ω* and *H* were introduced into the Athenian alphabet in 403 B.C. (archonship of Euclides): but their invention must be placed much further back.

Greek
alphabet.

after three new characters expressive of double consonantal sounds. The names \omicron $\mu\kappa\rho\acute{\omicron}\nu=\delta$, and ω $\mu\epsilon\rho\acute{\alpha}=oo$ or \bar{o} , were given after this to distinguish what had hitherto been combined in one form. The character ω (i.e. oo), introduced about Hadrian's time, made its form, like its sound, a lengthened o (cp. our w or 'double u ').

The Phœnician *Teth*=*t* sound, and *Thau*=*th*, were retained in their places by the Greeks, but their respective powers were interchanged, and the names slightly altered to correspond; *Teth* becoming *Theta* and representing the aspirated *t*, and *Thau* becoming *T'au* for the unaspirated tenuis.

The Phœnician alphabet was remarkable for its number of sibilants—viz. Nos. 7 (I), 15 (Θ), 18 (M), 21 (Σ)¹. I (in its later form, Ζ) was adopted at first to denote the double consonant sound of $\tau\varsigma$ or $\delta\varsigma$, peculiar to Greek, and retained this its original force throughout. To express the simple sibilant the Greeks had the three remaining characters to choose from. At first it was denoted by M (in the alphabets of Thera, Melos, Crete, Corinth, Corcyra, &c., Olymp. 40–80); then by Σ, or (written in a shorter form) Ϛ, whence the Latin form *S*. The superfluous character M then disappeared from the alphabet; but the later form of Ϟ (Phœn. alph. 13) exactly resembled it in shape: hence the apparent anomaly of the same form denoting at different periods such unconnected sounds as *s* and *m*. The remaining character Θ escaped extinction, because the Ionic alphabet, which finally prevailed in Greece, had employed it (as Ξ) to denote the compound sound $\kappa\varsigma$ (ξ). A later form still of Σ (sigma) was C, whence in late authors the orchestra is called τὸ τοῦ θεάτρου σίγμα, and *sigma*=a semicircular couch (Martial, x. 48, etc.). [The Latin form *S* arises from the attempt to write Ϛ in a single stroke. In the classical alphabet it has interchanged places with Ξ.] We also hear of σάν², a Doric

¹ The numbers refer to the Table on p. 42.

² Herodotus (i. 139), speaking of the Persian names, says they all end in the same letter, τὸ Δωριεὺς μὲν Σάν καλεῖται, Ἴωνες δὲ Σίγμα. σαμφόρας (Ar. Eq. 603, Nub. 122, 1298) is a horse marked with the old letter σάν; cp. κομματίας ἵππος, Nub. 23. Col. Mure assumes σάν to have been derived from the Phœnician *Zain*, and places it in col. II. of his table between *Vau* and *Heta*, supposing that the Dorian usage of σάν=σ alluded to by

form of *σιγμα*, which only remained as a numeral = 900, under the name *σამტი*, in the form *Ე*. Greek alphabet.

Koppa, *Q*, disappeared from the classical Greek alphabet, its sound being so like that of *K*, that one sign sufficed for both. It remained however as a numeral = 90, and is found in old Doric and Aeolic inscriptions: and it survives in *Q*, which the Romans adopted from the Dorian alphabet of the Greeks of Cumae.

X was originally written *XΣ* (*chs*). The original Greek alphabet had no sign for the guttural and labial aspirates (*kh*, *ph*), nor for those combinations of a mute with a following sibilant (*ks*, *ts*, *ps*) which seem to have been regarded by the Greek ear as single indivisible sounds, requiring a corresponding expression in writing. The dental aspirate was from the first expressed by *Θ* (*⊗ ⊕ ⊙*); and the Phoenician character *I* in its later form *Z* was, as we have seen, adopted as the sign of dental mute + sibilant (*ts*). The other combinations, *πh*, *κh*, *κs*, *πs*, are expressed on the oldest inscriptions by juxtaposition of the signs for their component parts: but the range of the alphabet was afterwards increased by three new signs, *φ*, *Χ* (+), *Ψ* (Ψ), which took their place after *Υ*. Their introduction must have been early; for no alphabet but those of Thera and Melos is without them. The order, however, and significance of the new signs varied in the two main groups of Greek alphabets. Thus (1) in the *Eastern* group (including Argos and Corinth in Greece proper) the order was *φ Χ Ψ*, signifying as in classical Greek *πh*, *κh*, *πs* respectively: the sound of *κs* being denoted by *Ξ* (HH), a variety of the Phoenician *⊞* (Samech). (2) The *Western* alphabets put *Χ* before *φ*, and gave it the value of *κs*, denoting *κh* by *Ψ*, and using for *πs* the old expression *πs* or *φs*.

This latter usage (of Western Greek alphabets) represents, according to Kirchhoff, the original order of these signs, superseded by the ultimate prevalence of the Ionian alphabet, as exhibited on inscriptions of the Aegean islands. The Roman alphabet, derived from a Dorian source (see below), has pre-

Herodotus was a mere provincial anomaly. Liddell and Scott regard it as a 2nd sibilant, which : Phoen. *Shin* : : *Ξ* : Samech,

served the force of $X = \kappa s$ (ξ), and (as a numeral sign only) that of $\Psi = \kappa h$: but in the classical Greek alphabet all trace of these values has disappeared. On the other hand, in Roman inscriptions of all periods we find XS for x^1 , which looks as if the idea of X as $= ch$ (χ) still influenced to some extent its written value. Its place in the Roman alphabet was of course determined by that of Greek X (χ).

Roman
alphabet.

B. Roman Alphabet. The history of the Roman alphabet will be found fully treated in such books as Wordsworth's 'Fragments and Specimens of Early Latin' (Introd. chap. II), and Roby's Latin Grammar, and need only be briefly noticed here². It was derived from the Dorian alphabet of the Chalcidian colony of Cumæ, as is shown by the form of $S = \zeta$, and the use of \varnothing (Koppa); and in its oldest form seems to have consisted of twenty-one letters, viz. $A, B, C, D, E, F, Z, H, I, K, L, M, N, O, P, Q, R, S, T, V, X$. The three aspirates *th*, *ph*, *ch* (in the Dorian character \odot , ϕ , ψ) were never used by the Romans, but the characters were retained as numeral signs. ψ (χ) was written \perp , and abbreviated into $L = 50$; \odot , with its circle incomplete, became $C = 100$, and was then identified with the initial of *centum*: and ϕ became CIO or \textcircled{C} , and finally $M = 1000$. $D = 500$ is the half of ϕ ; $X = 10$ is perhaps from \otimes , an ancient form of θ ; and $V = 5$ is the half of X .

Z went out of use at a very early period, its occurrence in the 'Carmen Saliare,' and on a single coin, being in fact the only evidence for its having been used at all; but in the time of Cicero it was reintroduced for the transcription of Greek ζ .

K went out of use, probably before the XII Tables, except in a few old abbreviations ($Kal. = Calendae$, $K = Kaeso$, etc.), and C was used to denote both the guttural *tenuis* and *media*, until a modified form, G , was taken to represent the *media*. The earliest inscription upon which G is found is the epitaph of

¹ Mr. Roby quotes as instances *extrad* (S. C. de Bacch., see Appendix I), *taxsat*, *lexs*, *proxsumus*, *exsigito*, *deixserit*.

² The most complete account (from which the others referred to are mainly derived) is to be found in pp. 1-29 of Corssen's 'Ueber Aussprache,' etc., vol. i. For illustrations and examples reference must be made to Corssen.

Scipio Barbatus, i.e. not later than 240 B.C. (Appendix I). The Roman alphabet. old *C* was retained in *C*, *CN*=Gaius, Gnaeus.

In the time of Cicero, *Y* and *Z* were introduced for representing *υ* and *ζ* in Greek words: and the combinations *th*, *ph*, *ch*, were written for the first time (see below, chap. iv).

The Emperor Claudius tried to introduce three new letters, viz. an inverted digamma ⱥ , for the consonantal sound of *v*; a reversed Greek sigma Ɱ , for *bs* or *ps*; and the sign of the Greek *spiritus asper* ⱦ (see above, p. 43), for the middle sound between *i* and *u*, i.e. Greek *υ*. The first and third of these letters are found on monuments of the period, but did not remain in use: while for the 'anti-sigma,' as it was called, there is no evidence even of contemporary monuments.

Double consonants¹ were not written till the time of Ennius, who is said to have introduced the practice in imitation of Greek. The earliest instance upon inscriptions is about 186 B.C. (see Appendix I), from which time to that of the Gracchi (about 120 B.C.) usage fluctuates: after 120 B.C. doubled consonants are general. Another method of denoting stress upon a consonant was by the 'sicilicus' (so called from its shape, *sica*), e.g. *ser'a*, *as'eres*=*serra*, *asser'es*.

The example of Greek *η* and *ω* led Roman *litterati* to try various methods for expressing long vowel sound.

(a) Doubling the vowel; said to have been used by the poet Accius, and found on inscriptions of his time between 130 and 75 B.C., always with the vowels *A*, *E*, *V* (*VOOTUM* is found on an earlier inscription). A double *I* was used after Cicero and Caesar to express the semivowel *j* (*Aiax*, *Maiia*, etc.).

(b) The length of *i* was in earlier Latin expressed by writing it *ei*; but after Sulla's time by making the *i* taller than the other letters (*VIcus*, *LIBERI*, etc.). This tall *i* was also used for the semivowel or *j* sound, especially at the beginning of words

¹ The date of the introduction of doubled consonants is of some importance for the scansion of Plautus. Plautus died fifteen years before Ennius; and but few instances of double consonants in his plays can be really genuine. *Supēlectile*, *similumae*, *satēlites*, *sagitta*, etc. are generally correct; and *ille*, *esse* must often be scanned *īle*, *ēse*. See Wagner, Introduction to *Aulularia*, pp. xli-xliv.

(Ivs, IVBETO, etc.); and in later inscriptions it is used confusedly for both \bar{i} and \dot{i} .

(c) By an accent or 'apex' (') from about 63 B.C. onwards. In Republican inscriptions this apex is found over *A*, *E*, *EI*, *O*, *V* (for examples, see Corssen, I. p. 22); in the Augustan age it is almost universal.

The Romans devised a simple nomenclature for the letters, which has superseded the Graeco-Phoenician names of the Greek alphabet. The vowels were denoted by their own sound; the explosive (mute) consonants and *h* by a vowel after them; the fricative and nasal sounds by a vowel before them. The vowel employed for this purpose was *e*, except that *k*, *h* were called *ka*, *ha*, *q* was called *qu*, and *x*, *ix*.

CHAPTER IV.

CHANGES AND MODIFICATIONS OF SOUNDS¹.

THESE must be noticed here so far as they affect Latin and Greek, and further illustrations of their operation will appear hereafter in the explanation of inflections. Sounds, we must remember, are interchanged and modified (a) between two or more languages [*δάκρυ*, *lacrima*; *duo*, *two*, *zwei*; *πέντε*, *quinque*]; (b) in the same language [e.g. *tego*, *toga*; *τρέφω*, *ἐρέψω*]. These changes and modifications proceed according to definite rules, varying sometimes in different languages; and the correct investigation of these rules is the basis of all true etymology.

Two general principles affect etymology:—

(a) *Harder sounds are not derived from easier*; or words which have retained a stronger letter from those which exhibit a correspondingly weak one. (In our Table of sounds Gutturals are stronger than Palatals, and so downwards; Tenuis stronger than Mediae; Explosive stronger than Fricative.) Thus *κοῖος* must be older than *ποιός*; *equus* than *ἵππος* (*ikkos*, *aqvas*), *sus* than *ῥs*. Harder sounds not derived from easier.

Apparent exceptions are often examples of the general phonetic law that change arises from weakness of articulation: e.g. *frag-or*, *frac-tus*. It is easier to pronounce tenuis and tenuis together, media and media, aspirate and aspirate: so in

¹ In this chapter I have gone over somewhat the same ground as that covered by Peile's 'Introduction to Greek and Latin Etymology,' adopting in the main his arrangement of the phenomena of phonetic change, with many of his illustrations.

Greek, λεκτός from λέγω, τυφθείς from τύπ-τω, πλεχθείς from πλέκω.

So *hiem-p-s* appears stronger than *hiem-s*; but *p* is merely phonetic, inserted because it is difficult to sound *s* after *m*. Again, the reduplicated form θιθῆμι is changed by Greeks to τίθῆμι, which is easier to pronounce, though *τ* by itself is stronger than *θ*.

Sounds usually interchangeable only at the same part of the mouth.

(b) *Generally*, only letters pronounced at the same part of the mouth are etymologically interchangeable—dentals with dentals, labials with labials, etc. [Gutturals, however, the strongest sounds of all, sometimes give way altogether to dentals or labials; and in Sanskrit, Greek, Latin, and Gothic, are found less frequently than these latter.]

Apparent exceptions may often be explained by the existence of both sounds in the original form; e.g. *bis* and *δῖς*: cp. Sanskrit *dvīs*. Here the Latin *b* is due to the *v* (*w*) sound. In *ἵππος*, Lat. *equus*, Sanskrit *aqvas*, *π* represents the *v* sound. *σύν* and *cum* are the same word; but from *ξύν*=*κουν*: so *καπ-νός* and *vap-or* are reconciled by Lithuanian *kvap-as*.

The latest and most comprehensive explanation of such changes, however, is that which refers them to the influence of *weak articulation*. One or two examples of its effects are subjoined.

Labialism.

1. *Labialism*, or change from *k* to *π*, *p*, is supposed by Curtius to be due to a parasitical *v* (*w*), unconsciously produced by lazy articulation of *k* ('labial after sound'). That *v* (*w*), following *k*, could change it to *p*, appears from Indo-European *akva*, Sanskrit *aqva*, *equos*, *ἵππος* (which must=*ikfos*). Here *kv* has become in Greek *ππ*.

That the *v* in these cases was merely phonetic, not a suffix, appears from instances where Latin has *kv* (*qu*), as well as *k* (*c*), e.g. *sequ-or*, *sec-undus*; *coqu-o*, *coc-us*: Greek *ἔπομαι*, *πέπων* show that *v* must be parasitic in Graeco-Italian time, and retained by Latin in some words while dropped by Greek (Peile, 286, 7¹). So with the change from *g* to *β*, *b*; Latin *gu* gives

¹ Corssen ('Ueber Aussprache,' etc. i. pp. 71-75) shows that *qu* was a mode of denoting the labial 'after sound,' or modification of the guttural

the middle step. In *urguere, urgere, tinguo, τέγω, v* is parasitic; but it is less often so after *g* than after *k*, *g* being an easier sound.

2. *Dentalism*: *k* changed to *t*, probably from influence of *y* 'Dentalism.' sound (*i* or *j*), as in transition from *-cio* to *-tio*, where *i* is semivowel. Here it is part of a suffix; but this proves the power of *y* sound to change a guttural to a dental, and hence philologists assume a parasitic *y* where they find the change without any apparent reason. There are, however, few certain examples: *τέ, que*, Sanskrit *ca*, Zend *ca*; Indo-Eur. *katvar*, Sanskrit *catvāras*, *τέτταρες* (= *τέτταρες*), *quattuor*.

These two instances of change from one class of sounds to another are given to show that some reason can generally be found for the apparent non-observance of our rule (*b*). We may now pass to the consideration of the two main heads under which all changes of sounds seem to fall; viz.,

(*a*) *Dynamic change*, which is voluntary, and intended to express change of meaning; the *formative* principle in language.

(*b*) *Phonetic*¹ *change*, which is involuntary, and due mainly to lax articulation; the *destructive* principle in language.

We need only here enumerate, with a few examples under each head, the principal changes of sounds that affect Latin and Greek; referring the student for a fuller illustration to such books as Schleicher's 'Compendium,' and Peile's 'Introduction to Greek and Latin Etymology.'

A. *Dynamic change.*

1. *Reduplication*. This appears to be the earliest and most natural device of language to strengthen the expression of an idea, observed most frequently in the language of savages and

tenuis, and so a transition from guttural *k* to labial *p*. In English, a similar labial modification of the dentals is expressed in *between, dwarf*, and palatal modification is heard in the pronunciation of *nature, verdure* (*ty, dy*). The labial modification of *d* (*dw*) is expressed in Old Latin *duellum*, but passed into the simple labial in classical Latin, *bellum*. Cp. *bis* with Sanskrit *dvis*, quoted above; and *duonoro(m)*=*bonorum* on old inscriptions.

¹ 'Phonetic' is sometimes applied in a wider sense to any change of sound, voluntary or involuntary: I have restricted myself to its more limited application.

Redupli-
cation.

children, and commoner in the earlier than in the later stage of highly developed languages such as Greek and Latin. In these it is gradually superseded by more refined and subtle modes of expressing the required change of meaning; and traces of its application remain only in occasional and (for the most part) exceptional phenomena:—

(a) In *imitative* words, e.g. *ululo*, ἀλαλάω; or names of animals expressive of their sound, e.g. *cuculus*, *turtur*; ἑρρυψ, ῥέριξ.

(b) In *Alliteration*¹, a favourite device of early Latin and Greek poetry (and also among other nations), to strengthen the expression of an idea by mere repetition of the sound of letters and syllables. Ennius and Naevius exhibit constant examples of its use; as also does Plautus, with whom however it becomes more of a trick of composition. Lucretius also employs it with considerable effect (for examples, cp. Munro's 'Introduction to Notes,' II. pp. 106, 107, 1st ed.), and Virgil does not disdain this among other poetical artifices, e.g. Aen. vi. 834:—

'Neu patriae validas in viscera vertite vires.'

Alliteration, of course, does not prove the use of reduplication as a *formative* principle in language; but it illustrates the natural tendency to intensify an idea by the repetition of sound.

(c) As a formative principle, Reduplication is commonly employed in Indo-European languages to produce 'frequentative' and 'desiderative' verbs. In Sanskrit such words are regularly formed from every root, by reduplicating the initial consonant and vowel of the root, and suffixing in one case *ya*, in the other *ish* or *sh*. Thus from the root *budh* (= 'to know') are formed *bobudhye*² (frequentative or intensive), *bobudishāmi* (desiderative); from *vid* (= 'to know,' Greek *ἰδεῖν*, Latin *vid-ere*), *vividye* (frequentative), *vividishāmi* (desiderative). Similar formations in Greek and Latin are *μαρμαίρειν* (root *mar*³,

¹ On the use and effects of alliteration in Latin poetry, see Munro's 'Lucretius,' Introduction to Notes, II. (vol. ii. p. 106, 1st ed.).

² Greek *μι-μέομαι* = *μι-μά-γο-μαι* is perhaps analogous to *bo-bhud-ya*.

³ The various ramifications of this root *mar* are exhaustively traced in Max Müller's 'Lectures,' II. vii.

originally = 'to grind down,' 'rub,' and so 'polish'), 'to flash ;' *παμφαίνειν* (root *φαν*, as in *ἐ-φάν-ην*), *ποιπνύω*, *δειδίσσομαι* ; *μερμηρίζειν*, cp. Lat. *me-mor-ia*, etc. ; or in nouns, *λαϊλαψ* (root *λαβ*, as in *ἐ-λαβ-ον*, (*δαιδάλεος*, *παιπαλόμεν*, *ἀμαιμάκετος*). The same force appears in the reduplicated 2 aorist.

(d) Reduplication is also employed in the formation of some 'present stems' (denoting, apparently, protracted as distinguished from momentary action), e.g. *δίδωμι*, *τίθημι*, *γίγνομαι*, *πίπτω* (root *πετ*, as in *ἐ-πεσ-ον*) ; Lat. *sisto*, *gigno*, *sero* (= *se-so*, root *sa*, as in *sa-tum*). More commonly still (in Greek almost universally), to form 'perfect stems,' e.g. *λέλοιπα* (root *λιπ*, as in *ἐ-λιπ-ον*), *πεγυλι* : such forms, indeed, are too familiar to require illustration for the present.

2. *Vowel Modification* ('strengthening' or the reverse), e.g. *Dynamic change :* for the formation of Noun or Verb stems: *λιπ-*, *λείπ-ω*, *λοιπ-ός* ; *'Vowel-intensification.'* *fid-*, *fid-o*, *foidus* (*foedus*). It appears that Indo-European speech expressed these and similar modifications of ideas by modifying the vocal sounds, so as to form a regularly ascending scale of each of the three primitive vowels, *a*, *i*, *u*.

The vowel sounds thus gained were used by different Indo-European peoples, according to different phonetic laws, with more or less regularity. Sanskrit exhibits them as follows¹ :—

| | |
|---------------|--|
| a, 1st a or ā | 2nd ā (in many roots there is no distinction between |
| i, ē (for ai) | āi the original a and its first raising.) |
| u, ō (for au) | āu |
| ī, ar | ār |
| ī, al | āl. |

¹ The two stages of vowel increase in Sanskrit are known by the names of *Guna* (गुण, 'quality') and *Vṛiddhi* (वृद्धि, 'increase'). Thus from *√vid*, 'know,' is formed by *Guna*, *Veda* ; by *Vṛiddhi* with addition of a suffix *-ika*) *Vaidika* = 'belonging to the Vedas.' It is doubtful, however, whether anything strictly answering to *Vṛiddhi* is found in the cognate languages. In conjugation, vowel intensification strengthens verbal bases in those persons whose terminations are called weak. Thus from *√i*, 'go,' is formed in sing. *émi*, *éshi*, *éti* ; in plur. *i-más*, &c. : cp. Gk. *είμι*, *εἰς* or *εἶ*, *εἰσι*, *ἰμεν*.

The questions whether the larger (or 'raised') forms of roots are derived from the shorter (*λείπ-* from *λιπ-*), or *vice versa*, and whether the change from *ε* to *ο* represents an original lengthening or not, need not be discussed in an elementary work.

These scales are employed in the formation from *roots* of noun and verb stems. Indications of a similar employment of vowel scales are exhibited by Gothic and Lithuanian (Peile, pp. 191-2), and by Greek and Latin; by Greek most fully, its vowel system being stronger and less liable to corruption than that of Latin.

The scales in Greek are :—

Vowel-
scales :
Greek.

| | | |
|--|------------------|--|
| A scale. α, ε, ο, raised 1st to ā or η. | | 2nd to ω. |
| e. g. λακ, λέλακα άγ, έάγα, | } perfect stems. | ρήγνυμι, έρρωγα, πτήσσω, πτώξ. |
| I scale. i raised 1st to ει (αι), | | 2nd to οι. |
| e. g. λιπ, λείπω, πιθ, πείθω, ιδ, είδω, | | λέλοιπα, πείθω, πέποιθα, είδω, οίδα. |
| U scale. υ raised 1st to ευ (αυ). | 2nd to ου (αυ). | |
| e. g. ελευθ, (ήλυθ-ον), πνυ, πνεύμα, χυ, χεύω, | | είληλουθα, σεύω, σοῦμαι, σπεύδω, σπουδή. |
| N scale. ν or ᾶ, raised 1st to εν. | 2nd to ον. | |
| e. g. γᾶ (γέ-γα-μεν), γέν-ος, τᾶ (τα-τίς), ά-τεν-ής, πᾶθ, πένθ-ος, μν (μί-μν-ω), μένω, | | γέγονα, γόνος, τόνος, πέπονθα, μόνος. |
| (Sometimes ᾶν, as) έ-κτᾶν-ον, (κτεν), | | έκτονα. |
| R scale. ρ or ᾱρ (ῥᾶ), raised 1st to ερ (ρε). | 2nd to ορ (ρο). | |
| e. g. μᾶρ, μέρ-ος, πῥᾶθ, πέρθ-ω, τρᾶπ, τρέπ-ω, ῥᾶκ, δέρκ-ομαι, | | έμμορα, μόρος, πέπορθα, τρόπος, δέδορκα. |
| L scale. λ or ᾰλ raised 1st to ελ. | 2nd to ολ. | |
| e. g. πλ (έ-πλ-ετο), πέλ-ω, βᾰλ, βέλ-ος, τᾰλ (έ-τέ-ταλ-το), τέλ-ος, | | πόλος, βολή, έν-τολή. |
| Scale consisting of short vowels; with loss of ε if possible in the form of the root, and 2nd raising by change to ο. | | |
| e. g. σχ (έ-σχ-ον), έχ-ω (σεχ), σπ (έ-σπ-ετο), έπ-ομαι, πτ (πί-πτ-ω), πετ, τεκ (έ-τεκ-ον), τέκ-ος, (λγ) λέγ-ω, | | δχος, δπ-λον, ποτ-μός, τέτοκα, τόκος, λόγος. |

Traces of vowel scales in Latin :—

Vowel-
scales:
Latin.

A scale. e, a, raised 1st to ē, ā.

2nd to ō.

e. g. lēgo, lēgem,
placere, plācare.sonus, persōna,
vox (vōco), vōcem.

I scale. i raised to [ei], ī, ē.

2nd to [oi], oe, ū.

[ai], oe.

e. g. ī. dīc, dico,
fid-es, fido,moenera, moīnera, munera,
foīdus, foedus.

U scale. u raised 1st to [eu], au, ō.

2nd to [ou], ū.

duc, dūcere,

douco (inscr.).

N scale. en (īn).

2nd raising on.

mens (Sansk. ma-tis),

moneo.

R scale. r (ōr, ūr) raised 1st to er.

2nd to or.

fors, fero,
posco (porc-sco), prec-ari,

proc-us.

Scale with short vowels.

nec-s,

noceo,

sequi,

socius,

tego,

toga.

3. *Nasalisation* may possibly also be reckoned as a process of *Dynamic change*: *Nasalisation*. 'Dynamic Change,' as being an extension of consonantal sound parallel to that of vowel sound just described, e. g. in *tundo* (root *tud*), where *tund*: *tud* :: $\pi\epsilon\iota\theta$: $\pi\iota\theta$. In its origin the nasal is a variety of another sound (see above, p. 33), and the guttural nasal is found (except in Sanskrit) only in combination with the guttural which produced it ($\acute{\alpha}\gamma\chi\acute{o}\nu\eta$, *angustus*). Nasalisation occurs chiefly in the formation of a certain class of present stems in Greek and Latin; and in the verbs so formed it is (like vowel-intensification for the same purpose) confined to the present stem. This formation will be found discussed in chap. viii; and if the view there adopted, that the nasal is dynamic, and not merely part of a grammatical suffix, be correct, we possibly may reckon Nasalisation with Reduplication and Vowel Intensification as a means of 'Dynamic change'.

¹ Consult especially Curtius, 'Tempora und Modi,' pp. 53-66; 'Das Verbum,' i. pp. 240 sqq.; also Peile, ch. vi. pp. 215-220 (3rd ed.).

Phonetic
change :

B. *Phonetic Change* :—

The difficulty of tracing vowel-intensification in Latin points to the opposite process of weakening or decay, which in vowels is particularly characteristic of that language. This brings us to the second head of change, viz. that which is involuntary, or 'phonetic' strictly so called, the principle of 'Phonetic Decay,' which plays so large a part in the history of language. As has already been pointed out (chap. iii.) the cause of such change is the conscious or unconscious effort after ease of articulation.

Its effects.

Its effects may be traced (i) in the substitution of a weaker for a stronger sound; (ii) in the loss of letters representing certain sounds; (iii) in 'assimilation' to a neighbouring sound, where the concurrence of two *dissimilar* sounds causes difficulty of pronunciation; (iv) in 'dissimilation,' where the concurrence of two *similar* sounds causes a like difficulty. We may look at these effects I. in vowels, II. in consonants.

Vowel-
change :
Substitu-
tion.

I. Vowels: (i) *Substitution of weaker for stronger sound*. The Latin language, we saw, retained fewer traces than Greek of the system of Vowel Intensification. On the contrary, it is especially distinguished by weakness and decay of vowel sounds. Thus of six diphthongs (*ai, ei, oi, au, eu, ou*), once in use as Latin sounds, and traceable on inscriptions, five had dwindled down to simple sounds by the time of Plautus, *au* being the only one generally preserved (with the exception of *eu* in a few words, *neu, ceu, neuter, heus*, etc.); while here we have a weakening to *o*, and forms with this weaker sound side by side with those retaining *au*; e.g. *lautus, lotus; Claudius, Clodius; plaudo, explodo*. The other diphthongal sounds were entirely superseded by the weaker forms; e.g. *quaistor* by *quaestor*; *coirare* by *coerare*, then *curare* (cp. *foirdus, foedus*); *deivus* by *dīvus*, *omneis* by *omnēs*; *joudex* by *judex*. In vowel sounds again, Latin shows a constantly progressive degradation of sounds from stronger to weaker, as represented in the following scale :—

A to O . . . U . . . E . . . I

O to U . . . E . . . I

U . . . E . . . I

E to I, U.

I to E.

Substitution
of Vowels :

A comparison of Greek and Latin with Sanskrit shows that the original vowel *a* (largely predominant in Sanskrit) has been changed first by breaking up into the three sounds of *a*, *e*, *o* (e.g. *πάδος*, *πόδες*, *πόδας*, Sanskrit *padás*, *pádas*, *pádas*), and then by further weakening of each of these three sounds. While, however, in Greek the process of vowel change was (speaking generally) confined to the breaking up of original *a* into *a*, *e*, *o*, (*a* remaining unaltered,) and a vowel of one scale but seldom passing into another (*a* to *i* or *u*¹): in Latin such further changes are so frequent as to assume the character of special phonetic laws of the Latin language. A few examples under the heads of formative elements, composition, and reduplication, will make this clear.

(a) *Formative elements* : 1. Verbs. Sanskrit *bharā-mas* becomes Greek *φέρο-μεν* (Doric), the thematic² *a* passing to the *o* sound and there remaining. Latin weakens *o* to *u* in *vol-u-mus*, and generally weakens it still further to *i*, e.g. *fer-i-mus*. The apparently unsubstantial character of the second *a* in *bharā-mas*, as a mere link between stem and termination, has perhaps helped its decline: and we see that in the termination *-mus* it has not sunk so far. In the termination again of 3rd pers. plur. (Sanskrit *anti*, Greek *-οντι* (Doric), Latin *-unt*), the weakening of *a* in Latin, though it goes one step further than Greek, stops at *u*; while such forms as *dederont*, found on inscriptions, and the retention of *o* after *u* in *quom*, *loquontur*, etc., show that the *o* sound was not entirely superseded. In *ferentem* and *ferendum*, however, the *a* before *nt* sinks down to *e*; old legal forms like *jure dicundo*, *res repetundae*, also *moribundus*, *oriundus*, *secundus*

In Forma-
tive ele-
ments.

¹ Schleicher (comp. § 32) gives a few examples of *a* of primitive Indo-European roots weakened to *i* or *u* in Greek, e.g. *dadāmi*, *δίδωμι*; *μῖλος*, from root *mal* (*mar*); *νύκτ*-, Lat. *noct*-, Skt. *nakta*. See also Peile, ch. vii. (p. 275, 3rd ed.).

² The 'thematic' or, as it used to be called, 'connecting vowel' is explained in ch. viii.

Substitution of Vowels: (= *sequendus*), etc., remaining as evidence of an earlier stage in the process of decline. The Greek participle stops short at *o*, in *φέροντος*.

In final syllables the vowel usually sinks to *e*, e. g. *monueront*, -*unt*; then (*nt* being lost by the lax pronunciation of the final syllable, which was characteristic of Latin) *monuere*; *uteris*, *utere*; *ipsus*, *ipse*; cp. ablative in *ē* of 3rd declension, originally *ī*. The reason for *i*, the weakest of the vowel sounds, thus passing to *e* in termination, is suggested by Corssen to be, that in pronouncing *e* the organs of speech vary least from their position when at rest.

2. Nouns. The masculine terminations -*os* and -*us* (in early Latin -*os*) represent Sanskrit -*as*, the *a* sinking in Greek to *o*, in Latin a step further to *u*. So neuter terminations; Sanskrit *janas*, Greek *γένος*, Latin *genus*; in oblique cases sinking to -*es*, *γένε(σ)os*, *gener-is*; but in some words retaining the stronger sound, e. g. *corpor-is* = *corpos-is*, from *corpus*. In gen. plur. *duonoro(m)* = *bonorum*, shows that -*um* is a weakening of -*om* (cp. Greek -*ων*), representing an original -*ām*, the older vowel sound being apparently retained in provincial Latin, and transmitted to modern Italian—e. g. *loro* = *illorum*.

In Composition.

(b) *Composition*: *a*, *o*, *u*, in Latin frequently weakened to *i*, the lightest vowel, from effort after lightness of sound; e. g. *causidicus* (*causa*), *armiger* (*armo-*), *corniger* (*cornu*). Especially is this the case in composition with prepositions, where such weakening is the rule with but few exceptions, cp. e. g. *capiō* with its compounds, and with *auceps*, *castus* with *incestus*, etc. In Greek compound verbs, on the contrary, the original form remained generally intact—cp. *ἀγω*, *συνάγω*, *παράγω*, *κατάγω*, with *ago*, *redigo*, *subigo*, etc. Where this prevailing tendency did not obtain in Latin words, the exception may sometimes be accounted for by the particular meaning, e. g. in *tepefacere*, *calefacere*, etc. The idea of causation, obviously represented by *facere*, may have prevented the sinking of the vowel which takes place in *conficere*, *perficere*, etc. Other exceptions, for which it is not easy to see a reason, are *posthabere*, cp. with *prohibere*, *perfaciles* with *difficiles*, *expando* (perhaps to distinguish it from compounds of *pendo*, e. g. *expendo*), etc.

(c) *Reduplication.* Here Greek and Latin both weaken the vowel in the reduplicated syllable in most cases to *e*, as in *τέτυφα* (root *τυπ*), *tetuli*. Latin in some words retains a stronger vowel, e. g. *poposci*, *cucurri*; but side by side with these are found such forms as *peposci*, showing the tendency to uniformity, regarding these syllables as mere grammatical forms. And Latin goes further than Greek in weakening the vowel of the radical syllable also, e. g. *pepigi* (root *pag*, seen in *pac-tum*), *cecidī* (root *cad*).

(ii) *Loss of Vowel Sounds.* Uncommon in Greek, except in a few verbs which form a present stem by reduplication, and drop the root vowel, *πι-π(ε)τ-ω*, *γι-γ(ε)ν-ομαι*, *μι-μ(ε)ν-ω*, etc.; and sometimes in formative suffixes before an inflection, e. g. *πα-τ(ε)ρός*, *μητ(ε)ρός*. In Redupli-
cation.
Vowel-
change:
Loss.

In Latin: *a* drops in *clarus* and *clamor* (root *cal*), *palma* (Greek *παλάμη*), *cypressos* (*κυνάρισσος*); *o* in *vict(o)rix*, *nep(o)tis*, *doct(o)rina*, etc.; *u* before *l* (this consonant and vowel having an affinity for each other, as being produced near each other in the mouth), in *vinc(u)lum*, *peric(u)lum*, *saec(u)lum*, etc.; and in words formed with the suffix *-ulo-*, the preceding consonant (especially *n* or *r*) then assimilating itself to *l* and producing the terminations *-ello*, *-ollo*, *-illo*, *-ullo*, e. g. *ocellus* (= *ocululus*), *libellus* (= *liberulus*), *asellus* (*asinulus*), *homullus* (*homonulus*), *corolla* (*coronula*), *bacillus* (*bacululus*), *pupillus* (*pupilulus*), *stella* (*ster-ula*): *e* before *r* (its most cognate consonant), especially in the suffixes *-ero*, *-bero*, *-tero*, etc.; *lib(e)ri*, *inf(e)ra*, *ag(e)ri*, *lateb(e)ra*, *sac(e)ro*, *soc(e)rus*, etc. Far more frequent is the loss of *i*, the thinnest of the vowel sounds, and the most frequent substitute for the stronger vowels. It seems capable of dropping out from almost any position, as e. g. in such familiar words as *quaes(i)tor*, *audac(i)ter*, *val(i)de*, *gaudeo* (cp. *gavisus*), *fer(i)t*; *dixti* (*dic-si-sti*), and similar contractions; *teg(i)men*, *repos(i)tus*; *co(i)go*, *sur(i)go*, *porgo* (beside the longer form *porrigo*), etc.

That this decay of vowel sounds was caused by the vowel gradually dying out of *unaccented* syllables, is the most recent and most probable explanation. This is not the place for a Effect of the
accent upon
vowel-loss.

discussion upon the Latin accent, such as may be found at length in Corssen's great work, 'Ueber Aussprache,' etc., and briefly summarised in Peile's 'Introduction.' We need only notice (1) that the decay first in quantity¹, and then in form of *final* syllables, which marks the history of Latin speech, seems most fully connected with the known law of Latin accentuation², never to accent the final syllable: (2) that many of the apparent metrical irregularities in the lines of Plautus and Terence (lines which, as intended to be spoken, are naturally subject to the practice of ordinary pronunciation), are best explained by the neglect in rapid pronunciation of sounds in syllables upon which no stress was laid³. We have only to pronounce the words ourselves to understand the Plautine prosody of *volūptātem*, *ferēntārius*, *senēctūti*; and in these and numberless other cases of comic prosody, the vowel sound is in a kind of intermediate stage between full pronunciation and total extinction—written, but scarcely heard, and liable to be pronounced more or less distinctly according to chance.

N.B. The change of quantity from long to short in final syllables is a loss or weakening of vowel sound, just as raising or lengthening a short vowel is a gain or 'intensification of sound.' Loss of quantity is an intermediate step to extinction of a final sound; and the gradual decay of sounds can often be historically traced through distinct stages of decline—a syllable with a vowel naturally long becoming short in ordinary usages (as *amāt*, *monēt*, cp. *amāre*, *monēre*; *honōr*, cp. *honōris*), then losing its final consonant, and finally, perhaps, disappearing altogether.

¹ As the lengthening a short vowel is a process of raising or increasing (or 'intensifying,' see p. 53) the vowel sound, so the shortening a long vowel is a decreasing or diminishing, and the result a *decay* in quantity.

² The rules of Latin accentuation (little familiar to us as *rules* from the fact that they coincide so nearly with our English accentuation of Latin words) are given by Quintilian, I. O. i. 5. 22-31. See Roby's 'Latin Grammar,' vol. i. § 296 sqq.; and Wordsworth, 'Fragments and Specimens,' Introd. ch. iv.

³ On this question of Plautine and Terentian prosody I may be permitted to refer to Introd., Part IV. of my edition of Terence, *Andria* (Rivingtons, 1875). Reference is there made to other and fuller sources of information.

(iii) *Assimilation of Vowels*: (1) *by Consonants*, through their phonetic relationship to particular vowels (see above). Vowel-change:
Assimilation.

a, the fullest and most independent vowel sound, is subject to no such influence. It passes into *o* by weakening of articulation, and so down the scale of descent to *u*, *e*, *i*. None of these however rise to *a*, nor do *u*, *e*, *i* rise to *o*. The difference in strength between *a* and *o* was clearly felt, as also between *o* and *u*; but between *u*, *e*, *i* there was no such strongly marked difference, and in their case the order of descent is sometimes stopped or varied by the influence of neighbouring sounds. Thus *u*, by its affinity to the labial nasal *m*, was retained at an early stage of the language in *sumus*, *volumus*, the vowel which in Sanskrit is *a* (*bharāmas*), and in Greek *o* (*φέρομεν*), sinking generally in Latin to *i* (*ferimus*). To the same influence (of labial *b*) perhaps are due the forms *Hecuba* (older *Hecoba*, Greek *Ἑκάβη*, and *triumpus* (Greek *θρίαμβος*). *l* however is the sound which, especially when followed by another consonant, had the greatest tendency to produce *u*. Thus *e* rises to *u* in *pulsus* from *pello*, *sepultus* from *sepelio*, cp. *mulgeo*, ἀμῆλω; *stultus*, *stolidus*, *sulcus*, ὀλκός, *scorpius*, σκόπελος; *pessulus*, πάσσαλος; *crapula*, κραπάλη. *e* had an especial affinity to *r*¹: so in oblique cases of neuters in *-us* (=Greek *-os*, Sanskrit *-as*), where the *s* becomes *r*, the *u* sinks to *e*, e.g. *funus*, *funeris* (cp. *funes-tus*); *genus*, *generis* (cp. *γένεσ-ος*, *γένεος*). Sometimes *i* rises to *e*, from influence of *r*, e.g. *pulvis*, *pulveris*; and *e* is the commonest vowel in Latin before two consonants or a double consonant (*x*); e.g. *judez*, but *judicis*: *auceps*, but *aucupis*—remaining sometimes where one of the two has been dropped, e.g. *mile(t)s*, *milit-is*, *dive(t)s*, *divitis*. Cp. also the participial forms, *-en(t)s* and *-endus*, the *u* surviving in *euntis*, etc., and in old legal forms, e.g. *jure dicundo*.

i, as the thinnest of vowel sounds, and the point to which all vowel sounds naturally tended to sink, can hardly be said to be the result of assimilation, so much as of the absence of any assimilating tendency which would retain the vowel at an earlier

¹ Roby, 'Latin Grammar,' vol. i. § 39.

Assimilation
of Vowels.

stage of decline. It seems however to have a certain affinity for dental sounds; e.g. before *n* in *machina*, *bal(i)nea*, *trutina* (cp. μηχανή, βαλανείον, τρυάνη), and before the suffix *-no* in *dominus*, etc. (cp. with Greek πιθανός, ικανός, etc.); in a large class of genitives in *-inis*, from stems originally in *-on*, e.g. *turbinis*, *imaginis*, *hominis* (old form *hemones*), *Apollinis* (old form *Apolones*); before *t*, *d*, in verbal conjugation, *agite*, *agito* (ἀγέτε, ἀγέτω) *gemitus* (*gemere*), *domitus* (*domā-re*), *debitus* (*debēre*); or in formations like *candidus*, *frigidus* (*frigē-re*), *morbidus* (*morbo-*).

(2) Assimilation of vowels by other vowels is seen in the tendency of two vowels coming into contact to approach each other. Thus a root vowel *i*, in contact with *a*, *o*, and *u*, becomes *e* in *queam*, *queunt*, *eo*, *eam*, *eundi*, etc., but remains unmodified in forms where there is no such contact, *nequit*, *nequibat*, *imus*, *ibo*. The oblique cases of *is* show the same change. Again, where two vowels are separated by a consonant, the latter (especially *i*) tends to assimilate the former¹. This is seen in many proper names, *Duilius* for *Duellius*, *Lucilius* (*Lucullus*), *Popilius* (*populus*); in derivatives, such as *consilium* (*consul*), *facilis* (*facultas*), *inquilinus* (*incola*). *e* assimilates *o* in *bene* (originally *bono*, then *bone*), *i* in *illecebrae* (root *lic*, of *allicio*); *u* is assimilated by *o* in *soboles* (*suboles*), *e* by *u* in *tugurium* (*teg.*).

Vowel-
change:
Dissimila-
tion.

(3) *Dissimilation* is of less frequent operation, occurring only in some cases where, from whatever cause, the same vowel sound occurred twice, and acting then as a bar to further change. Sometimes the two vowel sounds coalesced into one: thus, when *quom* tended to become *quum*, by substitution of *u* for *o*, the two vowels often coalesced, with the result *cum* (*q* not being written without *u*); but the principle of dissimilation retained the old spelling even in the Augustan age, and we have *quom* or *cum*, *equos* or *ecus*, *linguunt* and *lincunt*, etc., indifferently². The same principle operated in retaining the older forms *euntis* rather than *centis*, *ipsius*, *illius* rather than *ipsiis*, *illiis* (the genitive ending *-us*, Greek *-os*, regularly sinking to

¹ Roby, 'Latin Grammar,' vol. i. § 41.

² See Munro's 'Lucretius,' Introd. to Notes, I. vol. ii. p. 27, 1st ed.).

-is), and in avoiding *eis* (dat. plur. of *is*), by the form *eis* or *eis*.

II. *Changes of Consonants* : The respective characteristics of Latin and Greek are here reversed. We have seen that the Latin vowel-system is weaker and has been subject to greater degeneration by phonetic change than the Greek : but the Latin consonants are stronger, and (as will be seen) are comparatively free from assimilation, which obscures the radical form of many Greek words¹. Bearing in mind what has been already said of the relative strength of sounds, and of the general principle which governs all phonetic change—the desire to secure ease of articulation, the following general rules of consonantal change will be intelligible :—

1. 'Explosive' (or 'Momentary') sounds change to 'Protracted' or 'Fricative') sounds, not *vice versa* : e.g. *c* (*k*) to *c* (*s*), *centum* to French *cent* ; *t* to *s*, *tu*, *rv*, *sv* ; *d* to *l*, *δάκρυ*, *lacruma*, 'Ὀδυσσεύς, *Ulysses* ; *b* to *v*, *habere*, Italian *avere*, French *avoir* ; *p* to *v*, *sapere*, *savoir* : *ph*, *ch*, *th*, to *f*², *φέρω*, *fero*, *χολή*, *fel*, *θήρ* (Aeol. *φήρ*), *fera* ; *ch* to *h*, *χαμαί*, *humi*, *χανδάνω*, *pre-hendo*.

2. Gutturals change to dentals and labials, not *vice versa*.

3. *Tenuis* change to *mediae* in their respective classes, not *vice versa* (except where influenced by other sounds), e. g. *frag*-, *frac-tus* (see above, p. 49).

4. Rules (2) and (3) apply most obviously and uniformly to Explosive sounds or Consonants proper. Among 'protracted' or momentary sounds it is not so easy to trace definite rules of change. The contact of the vocal organs being less complete, in fact, an approximation only, the sounds are much less definite ; and their strength depends more or less upon the length of time during which they are sounded. The spirants *y*, *s*, *v* do not seem to interchange much, but neither *s* nor *v* passes into *y*, which, according to order of pronunciation, would naturally be the strongest sound. Of the liquids, *r* seems to be older than *l*, Greek and Latin often giving *l* where Sanskrit has *r* ; and

¹ E.g. in *φράσσω*, as compared with Lat. *faro-io*, see below, p. 75.

² For other examples see Roby, 'Latin Grammar,' i. § 99, and Corssen.

Consonant
change:
General ten-
dencies.

hence some philologists consider that *l* arises always from a weakening of original *r*, pointing in illustration to the fact that many children are unable to sound *r*, and substitute the easier *l* for it. Schleicher, e. g. ('Compendium,' § 147, 156), refers to λευκός, *luc-oo*, from root *ruk* (appearing in Sanskrit as *ruj*): *loc-utus*, λακ-εῖν, cp. with Slavonic *rek-a*, 'I speak'; *re-lic-tus*, λιπ-εῖν, with Sanskrit *ric*, etc.: but there seem to be other roots in which *l* is invariably found (see Peile, p. 85). And in the Romance languages *l* and *r* interchange both ways; e. g. *peregrinus* becomes *pellegrino*, and *Tibur*, *Tivoli*; but *lus-ciniolus* becomes *rossignuolo*, and *apostolus*, *apôtre*. *s* in Latin always passes to *r* between vowels, except in some cases¹, where *s* is not original but a substitution (e. g. for *ss* in *causa*, for *d* in *esuries*, etc.), or in compounds of words with initial *s* (*desilio*); and in Greek it frequently passes into the *spiritus asper* (*ἄλς*, *sal*; *ἔδος*, *sedes*; *ἄλη*, *silva*, etc.). This *h* sound in Greek is usually a remnant of one of the spirants, and weaker than any of them; in Latin it represents an original *gh*, and seems to have been more strongly sounded.

We may instance the effects of phonetic change upon consonants, under the same heads as those of vowel-change:—

Consonant
change:
Substitu-
tion.

(1) *Substitution of weaker for stronger sound.* (a) *media* for *tenuis*, *g* for *k*, *pac-iscor*, πήγ-νυμι, *pag-us*, *pango*; κυβερνάω, *gubernō*; *curculio* (Plautus), *gurgulio*; *negotium nec*-. *t* seldom passes into *d*. In Greek *dānis* (Aristoph. *Vespae* 676) perhaps=τάπης; νέποδες (Hom. Od. iv. 404), perhaps=*nepotes*. In Latin the confusion between *t* and *d* in the MS. spelling of words like *haud*, *apud*, *sed*, is to be referred to the general weakness and uncertainty of Latin final sounds. *p* passes to *b* in a few Greek words (e. g. ἵβρις from ἱπέρ), and in rather more Latin (e. g. *carbasus*, κάρπασος; *lambo*, λαβ-ium, λάπτειν, λαφύσσω); and *b* in Latin frequently represents Greek φ, *nebula*, νέφος; *orbis*, ὀρβανός; and the suffix *-ber*=-φορος (φέρω), *saluber*, *candela-brum*.

(b) Any further substitution of the mute or explosive sounds, e. g. *t*, *d*, *p*, *b*, belongs rather to the head of Assimilation.

¹ Roby, 'Latin Grammar,' i. § 193.

There are, however, in Latin a few instances of *d* passing into *l* and *r* (probably due to some peculiarity in the Latin pronunciation of *d*, bringing it very near the point at which *l* and *r* were sounded), e. g. *olere* from root *od*, cp. *odor*, ὀδῶδα; *lacrima* = δάκρυ (cp. Gothic *tagr*, our 'tear'); *lēvir* (see Forcellini), = δαίρ, cp. Sanskrit *dēvar*. Similarly *lingua* must have been *dingua*, cp. Gothic *tuggθ*, German *zunge*, English *tongue*; and Festus states that Livius Andronicus actually wrote *dacrīma*¹. The change of *d* to *r* is chiefly found in the preposition *ad*, in composition before *v*, *f*, *arvocatos*, *arfuerunt*, *arvorsum*, *arvena*, *arfines*, etc.; cp. also *arbiter* (*ad-beto*), *arcesso* (*ad-cesso*). This change is sometimes reckoned as an effect of assimilation; but more probably arose from a weak pronunciation of *d*, near the point at which *r* is produced. And the appearance of these words with the *d* in classical Latin seems to show that this carelessness of pronunciation had only just begun to produce an effect upon orthography, when it was checked by the literary epoch of the language; and the inference is, that it was an accidental and isolated phenomenon in the Latin pronunciation of that particular sound.

Consonant
change:
Substitu-
tion.

(c) Changes of *Spirants* (*y*, *s*, *v*). These have especially affected Greek, and in a great measure produced the distinctive feature of accumulation of vowels without a consonant, e. g. *δηϊοιο* [once *δασ-γέ-σγο*].

Changes of
Spirants.

Y. There was no symbol for this spirant in the Greek alphabet, no doubt because the sound which we denote by it had disappeared or become changed. It appears in Greek (1) as *ι*, especially in the suffix *yo(ω)*; thus *ἀνδρέ-ιο-ς*, *εὐσέβεια* (= *εὐσέβειο-γα*), *γενέτειρα* (= *γενέτερ-γα*, *τετυφνῖα* (= *τετύφνιο-γα*), *δῆμοιο* (Homeric genitive = *δῆμο-σγο*); (2) as *ε*, in *κενεός* [Epic form of *κεν-γο*, 'empty'], and in the contracted future forms, *φενξοῦμαι* = *φενγ-σέο-μαι* = *φενγ-σγο*, the *ι* remaining in the Doric form *πραξιόμες* = *πρᾶγ-σίο-μες*; (3) as the 'spiritus asper,' *ἥπαρ*, *jecur*; *ἄγιος*, Indo-Eur. *yagyas*;

Y.

¹ Bergk suggests that in Ennius' well-known lines (Epigr. i. 4)—

'Nemo me lacrumis decoret neque funera fletu

Faxit. Cur? volito vivos per ora virum'—

the poet may have written *dacrumis*, which would obviously increase the force of the alliteration.

Changes of
Spirants:
Y.

ἰσμίνη, from root *yudh* (ἰθ becoming ἰσ before μ). Or (4) it is altogether lost, as e.g. in Attic genitive ἵππου=ἵπποο, cp. with Epic ἵπποιο; πλίον=πλείον, φύω=an older φυίω (Sanskrit *bhu-ya-*), and χάλκεος (Doric)=χάλκειος, ἀλάθεια=ἀλάθεια.

S.

S in Greek usually passes into the *spiritus asper* at the beginning of a word, as we see from many familiar examples where the analogy of other languages shows that the word once began with σ. (ἔδος, ἐπτά, ἔπομαι=sequor; ὄς=σός=suus.) Sometimes a *spiritus asper* is due to a lost σ, which was not initial, e.g. εἰστήκειν=ε-ἑστήκειν=ε-σεστήκειν (the root *sta* being reduplicated to *sa-sta*, σε-στα); ἡμεῖς=ἄσμεῖς, cp. the form ἄμμες=ἄσμες. At the end of roots and words an original *s* generally retained its place in Greek, and so in formative and case suffixes, being, in fact, one of the few final sounds which Greek euphony tolerated: at the beginning of words also it is sometimes found, e.g. σιγάω, σελήνη; but only regularly when a hard consonant follows, and protects it from the usual change to ς, as in στορέννυμι, στοά, σχίζω, etc.

In Latin *s* between two vowels is almost always changed to *r*, e.g. *lares*=*lases* (Carmen Arvale), *feriae*=*fesiae* (cp. *festus*); *heri*, *hesternus*, χθές; *eram*, *ero*, from stem *es* of *esum*; *gero*, *ges-tum*; *oneris*, *generis*=*ones-is*, *genes-is*, from stem *onus*, *genus*; gen. plur. suffix *-rum*=an original *sam*, and *r* of passive voice=*se*. The only exceptions to this general law of change are (a) where *s* is not original, but a substitution for other sounds, e.g. for *ss* in *causa*, for *d* in *esuries* (*ed-o*), *ausim* (for *aud-sim*); (b) in compounds of words where *s* was initial, *de-silio*, *po-situra*, *prae-sentia*, *bi-sextus*, etc.; (c) in certain other words, viz. *asinus*, *basium*, *caesaries*, *casa*, *caseus*, *cisium*, *fusus*, *laser*, *miser*, *nasus*, *pusillus*, *quasillum*, *quaeso* (also *quaero*), *rosa*, *vasa*; and in some proper names, *Caesar*, *Kaeso*, *Lausus*, *Pisa*, *Sisenna*, *Sosia*¹.

In Greek, on the other hand, σ between two vowels drops out, e.g. γένεσ-ος, γένεος, γένους, τύπτη-σαι, τύπτεαι, τύπτη; and this is almost universal, except in cases where the loss of σ would have created confusion, and an artificial effort was therefore made to

¹ These examples are chiefly from Roby's 'Latin Grammar,' vol. i. § 193.

retain it ; or where, as in *τά-σις, ἰσση-σι*, the *σ* represents an original *τ* (*τα-τις, ἰσση-τι*). In some inflections also like *ἰσσησαι*, the tendency to drop *σ* was resisted ; the intellectual or instinctive desire of retaining the part of a word, which was characteristic of its meaning, in these cases triumphing over the physical tendency to reduce the effort of articulation. Similarly in Latin, the tendency to drop final *-s* seen in the constant change of forms like *amabaris, amaberis*, to *amabare, amabere*, is to a great extent resisted in the form *amaris*, because *amare* would lead to confusion with the pres. infin. active ; and *ab* is much seldomer changed in composition than *sub*, because of the danger of confusion with *ad*.

Changes of
Spirants :

In Latin final *-s* (like final *-m*) seems to have been faintly sounded in pronunciation¹, and thus was often omitted in writing also. In the scansion of early Latin poetry it was ignored before an initial consonant (a fact noticed by Cicero, *Orat.* 48. 161), e. g. *tum lateralis dolor certissimus nuntius mortis*, Ennius 601 (Vahlen), and so often in Lucretius (e. g. i. 159, 186) and once in Catullus (116. 8, Ellis). From Terence Wagner instances in the *Hecyra auctus sit* 334, *defessus sum* 443, *incertus sum* 450, *expertus sum* 489, *nullus sum* 653, *usus sit* 878—all endings of iambic lines. Virgil (*Aen.* xii. 115) in imitating Ennius's *funduntque elatis naribus lucem*, transposes thus (to suit a stricter pronunciation of final *s*): *lucemque elatis naribus efflant*. The tendency recurred in the fourth century A. D., and remains in Italian, Spanish, etc. It is also, of course, illustrated by such forms as *nauta* (cp. *ναύτης*), *ille, ipse* (for *illus, ipsus*), *puer, famul* (*puerus, famulus*), *pote, mage* (*potis, magis*), *amabare* (*amabaris*).

V=F. This spirant (pronounced² something like English *w*) was known to the Greeks at an early period by a distinct symbol, the Digamma (*F*), found chiefly upon old Doric and Aeolic inscriptions³, and traceable in its effect upon the scansion

V or *F*.

¹ Roby, 'Latin Grammar,' § 193.

² On the pronunciation of *u* consonantal (*v*) see Wordsworth, 'Fragments,' etc., *Introd.* iii. §§ 10-15 ; Roby, 'Latin Grammar,' Preface, pp. xxxii-xlii.

³ E. g. those of Boeotia, Phocis, Locris, Laconia, Argos, Corinth, Cor-

Changes of
Spirants:
V or F.

of Homer; but evidently passing out of use at the earliest period to which such inscriptions carry us back. The Digamma occasionally appears in ordinary classical Greek as *v*, e. g. δῖο (Sanskrit *dvau*, Gothic *twai*, German *zwei*), and the Aeolic forms χεύω, πνέω = χέψω, πνέψω. In these latter Attic Greek has lost it, as also at the beginning of many words, in which, from the analogy of kindred forms in other languages, it must once have existed (οἶνος, *vinum*; οἶδα, *ideîn*, *vid-eo*; ἔργον, German *Werk*, English *work*). It also appears as *spiritus asper* (on the evidence, again, of comparison with other languages), e. g. ἑσπερος, *vesper*; ἔννυμι = ἔσ-νυμι, *ves-tis*; ἴσ-τωρ = ἰδ-τωρ, from *Fiδ-* (the verb forms having lost it altogether, and ἴστωρ in time coming to have the *spiritus lenis*). In a few cases *v* (*F*) seems to have been hardened or strengthened to *β*, e. g. the Laconian forms, βέτος = ἔτος (cp. Latin *vetus*, *veter-nus*), βέργον = *Fέργον*; and βούλομαι, with its various forms, βάλλομαι (Aeolic), βάλομαι (Doric), the original consonant of which may have been *v* (*F*), cp. *vol-o*, Slavonic *vol-i-ti* (inf.), Gothic *vil-jan*, German *willen*, English *will*; for here the evidence of so many languages for the *v* sound prevents us from regarding Latin *v* as a weakening of *β*. The occasional confusion between *b* and *v* in Latin, and the representation (chiefly in Plutarch, a Boeotian Greek, and an indifferent Latin scholar) of Latin *v* by Greek *β*, has been pressed as an argument against the pronunciation of Latin *v* like *w*, and in favour of the labial sound of English *v*. Even in Plutarch, however (1st cent. A.D.), *ov* is almost twice as common as *β* for Latin *v* (Οὐαλήριος, etc.); in Dionysius of Halicarnassus (Augustan age) *β* is only occasionally found; while in Polybius (2nd cent. B.C.) *ov* is the regular equivalent for *v*. It seems therefore highly probable that the transliteration of *v* by *β* is connected with a dialectical tendency to confuse *v* and *b* in Latin, which appears in rare cases like *ferveo*, *ferbui*, and afterwards more commonly on inscriptions of the 2nd century A.D. and onwards. The *v* in all such cases was

cyra, etc. (Kirchhoff.) The Romans, taking a Doric alphabet (see p. 46), found this character, but changed its value, thinking the *w* sound sufficiently represented by *V*.

possibly the 'labial *v*¹,' passing irregularly but not permanently into *b*: and the safest conclusion from the evidence of transliteration appears to be that Latin *v* generally = *w*, but sometimes dialectically a labial *v*². The substitution of *μ* and *γ* for *F* is also assumed in a few cases, of very uncertain etymology; e. g. *μόςχος*, *δσχος*, *ἀμφήν*, *αὐχὴν*, *μέλδομαι*, *ἐλδομαι*, etc.

Consonant change:

In Latin, just as *y* is represented by *i* (consonantal), and sometimes disappears (e. g. in *min(i)or*, *ero* = *esio*), so *v* is represented by *u* (consonantal), and sometimes disappears as in *s(v)ibi*, *t(v)ibi* (roots *sua-*, *tva-*). It is also occasionally represented by *f*, e. g. *frango*, *Φρήγγυμ*; *frigus*, *Φριγέω*; and the sign *F* is of course the old digamma, adopted by the Latins, but to denote a different sound.

(*d*) Changes of the *Aspirates*, especially the aspirated mediae *bh*, *dh*, *gh* in Latin. General rules:—These aspirates (*gh*, *dh*, *bh*), when they occur in the middle of a word, are generally represented by the corresponding unaspirated letters; when initial they can all be represented by the single sound *f*. This sound is not itself an aspirate, and has e. g. no power of assimilating a preceding nasal like the other mutes in Latin (*in-ficio*, but *im-petus*), so that it may be different in sound from Greek *φ* (*ἐμφαίω*). Priscian's account of the difference between the two, that *ph* is pronounced 'fixis' and *f* 'non fixis labris,' is explained by some to mean that *ph* is an explosive or momentary, *f* a fricative or protracted, sound. If this be true, *f* must be considered as only a *spirant* or *breathing*, pronounced with a strong breath, and taking the place of *h* strongly sounded after *b*, *d*, *g*, the distinction between these letters being obscured, and only one part of the respective combinations *b + h*, *d + h*,

Changes of Aspirates.

¹ Labial (as distinguished from labiodental or English) *v* is formed by bringing the outer edges of the lips together, while the voice escapes laterally. This sound is said to be heard in Central Germany (e. g. in *weg*), and in Spanish *b*, and modern Greek *β* (Peile, ch. iv. p. 80. 3rd ed.).

² For an admirably full discussion of the pronunciation of Latin *v*, see Roby's 'Latin Grammar,' vol. i., Preface, pp. xxxii–xlii; and cp. Peile, ch. viii. pp. 355–357. Corssen ('Aussprache,' i. p. 310 sqq.) maintains that *v* had not a 'weak vowel sound like English *w*, but a consonantal tone like German *w*'—meaning the labiodental sound of English *v*. He much exaggerates, however, the extent to which *β* represented Latin *v* (see Roby, l. c.).

Changes of
Aspirates.

g + h being retained. At the beginning of a word the first part of each fell away, leaving only the latter under the form of *f* (or *h*): in the middle of a word, Latin generally retained the first part and the latter or aspirate fell away. We thus have *f*=*bh* in *fari*, root *bhā*, whence *φάσαι*; *fui*, root *bhu*, whence *-bo*, *-bam* of future and imperfect: *f*=*dh* in *firmitas*, root *dhar*; *fores*, root *dhvār*, whence Sanskrit *dvāra*, Greek *θύρα*, German *Thür*, English *door*: *f*=*gh* in *fa-mes*, *χα-ρίς* (Sanskrit *ja-hā-mi*); *fons*, root *fu*=Greek *χv* in *ἡ-χv-θη* and forms of *χίψω*, = originally *ghu*, cp. Gothic *giulan*=German *giessen* (whence 'Giessbach' the name of a waterfall); *formus*, 'warm'=Sanskrit *ghar-mas*, Greek *θερ-μός*; *fel*=Greek *χολή*. *f* also = Greek *θ* in *femina*, *θήλυς*, *fera*, *θήρ*, and in other words, in some of which however it and the *θ* may represent an original *dh*, as in *fores*. In some cases, side by side with the form in which the aspirate has sunk to *f*, is found another with *h*, used in the classical dialect; thus *haedus*, Sabine *foedus* [originally *gh*, the *g* remaining in 'goat']; *hariolus*, Sabine *farinolus* (Greek *χορ-δή*). So *hircus*, *fircus*; *hostis*, *foctis* (root *ghas*, in Gothic *gas-t-s*, English *guest*): and *fordeum*, *foedus*, attributed by Quintilian (i. 4. 14) to the old Romans.

F occurs most frequently as representative of *bh*, with which it has the labial element in common; less often of *dh*, with which it has only the use of the upper teeth in common; least often of *gh*, with which its only connection appears to be, as already mentioned, the strong breath with which it and the *h* of *gh* were each pronounced.

Consonant
change:
Loss.

(2) Loss of Consonantal Sounds:—

(a) Initial sounds. *s* and *v* (*F*) are most frequently subject to loss in both Greek and Latin, especially before the nasals *m*, *n* and liquids *l*, *r*. Thus *μήμνη*, cp. Sanskrit *smar-a-mi*, 'I remember'; *νός*, cp. Old High German *snur*; *ρέω*, root *pu*=*σpu* (the *s* appearing in *stream*, *strom*, etc., and in the first *p* of *ἔρρευσα*, *ἔρρύην*, etc. by assimilation from *ἔ-σπευ-σα*, *ἔ-σπύ-ην*); show a loss of initial *σ* in Greek. In Latin, again, no native word begins with *sm*, *sn*, or *sr*, and even borrowed words sometimes lose the *s*, e.g. *myrrha*=*μύρρα*; cp. *funda*, *σφενδόνη*,

fides (a string), *σφιδη*, *fallo*, *σφάλλω*, etc.¹ *v* (*F*) is lost before *ρ* in *Consonant change: Loss.*
ρίζα (German *Wurzel*, English *wort*), and *ρήγνυμι*, Latin *frango*
 (where the *F* was a weakening of an earlier *bh*, traceable in Gothic *brikan*, English *break*); and before vowels in all cases where it has not passed into the *spiritus asper*—e. g. *οἶνος*, *vinum*, *οἶκος*, *vicus*, *ἔργον*, *work*, *ιδ-ειν*, *vid-ere*, etc., etc.

Loss of other consonantal sounds, when initial, is generally 'sporadic,' i. e. confined to stray instances, which do not offer sufficient evidence of any general phonetic tendency—e. g. the loss of *c* in *ubi*, *unde*, preserved in *ali-cubi*, *ali-cunde*².

(b) Medial sounds are rarely lost in Greek, except in avoiding difficult or impossible combinations of sounds, such as would be *τετυφ-σθε*, *ἑσταλνται* (Ionic *ἑστάλαται*). The notion that *τ* falls out in the oblique cases of certain nouns, e. g. *κέρα(τ)-ος*, and in the 3 sing. of verbs (*τύπτει*=*τυπτε-τι*)³, is no longer regarded as a probable explanation. In Latin, medial sounds are more often lost. Corssen and Schleicher give a number of examples of such loss, chiefly before spirants and nasals, e. g. *miles* = *militis*, *cesor cosol* = *censor consul*; *ma(g)-ior*, *pe(r)-iero*; *re(s)mus* = *retmus*, Greek *ῥετμόν*; *exa(g)-men*, *de(c)-nus*, *po(s)-no* (cp. *pos-ui*). Before momentary sounds such loss is rare except before dentals—e. g. *tor(c) tus* (*torq-ueo*), *ul(c)-tus*, *ju(s)-dex*, *i(s)dem*. Schleicher considers that in all or most of these and similar examples the lost letter has first been *assimilated*, and then omitted, from the practice in old Latin of not writing the same consonant twice⁴: e. g. *res-mus*, *rem-mus*, *remus*: an ingenious attempt to bring under a uniform rule a number of scattered examples, which may or may not be true, but is hardly capable of proof.

(c) Loss of Final Sounds, i. e. of the consonant or consonants of the final syllable. The tendency of many languages to throw

¹ Corssen ('Kritische Beiträge,' p. 428) suggests that *Roma*=*Srouma* (root *eru*), the 'stream-town,' a term applicable to the old 'Roma quadrata' on the Palatine Hill, before the Tiber was kept within its banks. This of course is but one among a number of competing etymologies for the name.

² Other examples are given by Peile, ch. viii. pp. 370-1; and Corssen ('Kritische Beiträge,' pp. 2, 57-64, 142).

³ See below, ch. viii.

⁴ On double consonants in Latin, see above.

Consonant
change:
Loss.

back the accent from the final syllable, gave this syllable a weaker pronunciation, and made it liable to phonetic corruption, the extent of such corruption varying in different languages with the inability to accent the final syllable. Thus in Latin, which never accents the final syllable, there is more extensive loss of final consonantal sounds than in Sanskrit or Greek: just as we have already seen that its final vowel sounds are peculiarly liable to corruption, either by the shortening of sounds originally long, or by total loss. The operation of this common tendency to weaken or drop difficult sounds in final unaccented syllables varies with the phonetic laws of individual languages by which certain final sounds are accepted or rejected. The Greek ear, for example, allowed no consonantal sound to end a word but *v*, *s*, and less frequently *p*; the only exceptions being *οὐκ* and *ἐκ* (*ξ* or *ψ* of course include *σ*): and when any other consonant appears etymologically at the end of a word it is usually rejected—e.g. *μέλι*=stem *μελιτ*, as seen in *μέλιτ-ος*, *σῶμα*=*σωματ-* (*σώματ-ος*), *ἦσαν*, Latin *erant*, and all participles in *-ων*, the stem of which is *-οντ*, as in oblique cases *τύπτοντ-ος*. In Latin *-nt* is an admissible final sound (*amant*, *erant*, etc.), though in participles *t* is changed to *s* in the nominative sing. (*amans*, *amantes*): and the different treatment in the two languages of this participial stem termination *-nt* is a good illustration of the direction given to general tendencies of phonetic change by the phonetic laws of individual languages. The paucity of admissible final sounds in Greek leads also to corruption of the final syllable even when accented, e.g. *τιθεῖς*=*τιθεντς*. In Latin, as has been shown, the tendency is for the final vowel to sink to a uniform sound of *e*, but there is considerable variety of consonantal termination: *s*, *m*, *t*, *r*, *c*, *d* being all found, besides many combinations impossible to Greek (which avoids the accumulation of consonants at the end of a word), e.g. in *ferunt*, *hunc*, *vult*, *fert*, *scrobs*, *ars*, *puls*, *hiemps*. Almost any combination, in fact, that could be pronounced was allowed, with the exception of double consonants (e.g. *oss-is*, but nominative *os*; *fellis*, *fel*) or two explosive mutes, e.g. *lact-is*, *lac*; *cord-is*, *cor*. As

far then as the language of the classical Roman writers is concerned, there is less deterioration of final consonantal sounds than in Greek: but there is good reason for supposing that in the pronunciation of ordinary life, in the spoken language of which the plays of Plautus and Terence are the chief written representatives, 'neglect of final sounds'¹ was more the rule than the exception; so much so, that upon old inscriptions they are often actually omitted. This is most often the case with the most common final letters *s*, *m*, *t*. The case of final *s* has already been noticed (p. 67) under the changes of spirants.

Consonant
change:
Loss.

Final *m*, as is evident from its regular disregard in Latin poetry, must have been weakly pronounced; and this is confirmed by the statements of grammarians, and the evidence of early inscriptions, on which we find such forms as *oino* (*unum*), *viro* (*virum*), etc. (cp. Appendix I. Inscr. i. 2), and *dono dedit*=*donum dedit*. The omission is however rare in *legal* inscriptions, where greater accuracy was desirable, and in others after 130 B.C., when literature began to insist on precision of grammar and form; but is found in the vulgar wall inscriptions at Pompeii, and towards the end of the third century A.D. becomes frequent again. The Italian forms *meco*, *dieci* (*mecum*, *decem*) and the like, show how completely it must have become ignored in pronunciation in the later Empire: and the history above sketched of its appearance on inscriptions shows how the natural tendency of pronunciation towards phonetic decay was checked for a while during the predominance of a classical literary dialect, only to assert itself more completely in the end.

Final *m* in
Latin.

(3) Consonantal Change.—Assimilation.

Sounds which require very different positions of the vocal organs, or which are respectively *tenuēs* and *mediae* (see above, ch. iii. p. 32) are obviously difficult to pronounce close together; and when two such incompatible sounds would otherwise come together, the principle of euphony operates to produce such a change in one or the other of the two sounds as will make them easy to pronounce in close contact. These

Consonant
change:
Assimila-
tion.

¹ See Wagner, *Introd. to Aulul.*, pp. xxix-xxxv, and my Introduction, IV. to Terence, *Andria*.

Consonant
change :
Assimila-
tion.

changes are included under the general head of 'Assimilation,' by which is implied the change of one of two neighbouring sounds to a sound either the same as or sufficiently like the other to be 'compatible' with it, and therefore easy of pronunciation in close contact. It may indeed happen that the recurrence of the *same* sound twice is unpleasant to the ear, in which case euphony requires 'Dissimilation,' or change to a sound different from, but compatible with, the sound whose repetition offends: but as there are naturally but few cases in which such repetition of the same sound is unpleasant, Dissimilation plays but a limited part in phonetic change.

Assimilation is either (a) of the first sound to the latter (*regressive* assimilation); or (b) of the second sound to the first (*progressive* assimilation); or the two sounds pass into (c) a third (doubled) sound; or (d) into a single letter. It is also (1) complete, where the assimilated letter becomes the same as the other; (2) partial or incomplete, where it passes into a similar sound.

Regressive assimilation preponderates in Indo-European languages: progressive assimilation in Ural-Altaic (Turanian) languages. This difference is ascribed by some (e. g. Sievers, 'Lautphysiologie,' p. 137) to the difference of accentuation in the two families; Indo-European in its earliest stage mostly accenting the final syllable, Ural-Altaic the first syllable of a word.

(1) Complete Assimilation:—

(a) Of the first to the second sound.—In Greek σ to ν or μ , e. g. $\acute{\epsilon}\nu\nu\mu\iota = \acute{\epsilon}\sigma\text{-}\nu\mu\iota$ (*ves-tis*), $\acute{\epsilon}\mu\mu\acute{\iota}$ (Aeol.) = $\acute{\epsilon}\sigma\text{-}\mu\acute{\iota}$, $\acute{\alpha}\mu\mu\epsilon\varsigma$ (Dor. and Aeol.) = $\acute{\alpha}\text{-}\sigma\mu\epsilon\varsigma = \acute{\eta}\mu\epsilon\iota\varsigma$: labials to nasals, $\delta\mu\mu\alpha = \delta\pi\text{-}\mu\alpha$, $\gamma\rho\acute{\alpha}\mu\mu\alpha = \gamma\rho\acute{\alpha}\phi\text{-}\mu\alpha$, $\tau\acute{\epsilon}\nu\mu\mu\alpha\iota = \tau\acute{\epsilon}\nu\phi\text{-}\mu\alpha\iota$: nasals to liquids (especially $\sigma\acute{\iota}\nu$ and $\acute{\epsilon}\nu$ in composition)— $\sigma\upsilon\lambda\lambda\alpha\mu\beta\acute{\alpha}\nu\omega$, $\sigma\upsilon\pi\rho\acute{\rho}\acute{\epsilon}\omega$, etc. So $\pi\omicron\sigma\sigma\acute{\iota}$ (Epic) = $\pi\omicron\delta\text{-}\sigma\acute{\iota}$. In Latin $summus = sup\text{-}mus$, $flamma = flag\text{-}ma$ (*flagrare*), $puella = puer(u)la$, $esse = ed\text{-}se$ (*edo*): and so with prepositions in composition: *ad* in *appello*, *aggero*, etc., *ob* in *occurro*, *officio*, etc. *sub* in *summoveo*, etc., *ex* (ἐκ) in *effero*, etc., *dis* in *diffugio*, etc., *com* in *corruo*, etc.

(b) Of the second to the first sound.—In Greek (chiefly in Aeolic forms): $\kappa\acute{\tau}\epsilon\nu\omega = \kappa\tau\epsilon\nu\gamma\omega$, $\acute{\epsilon}\sigma\tau\epsilon\lambda\lambda\alpha = \acute{\epsilon}\sigma\tau\epsilon\lambda\text{-}\sigma\alpha$, $\acute{\epsilon}\nu\epsilon\mu\mu\alpha =$

Other examples are given by Roby, 'Latin Grammar,' § 34.

ἐνεμα. In Attic ἵππος=ἱπφος, cp. ἵκκος=ἱκφος (Sanskrit अघ्नाs). In Latin *issimus*=*is-tumus*¹: so *celerrimus*, *facillimus*=*celer-timus*, *facil-tumus*: *ferrem*, *vellem*=*fer-sem*, *vel-sem*. Consonant change: Assimilation.

(c) The two sounds pass into a (double letter) third sound. In Greek the sound σσ (or ττ)² seems in many cases to have arisen from the combination of the *y* sound with dental and guttural mutes (i.e. from *ty*, *thy*, *ky*, *gy*, *xy*). Thus with dentals we have κρέσσων=κρετ-γων (κράτ-ος), λίσσομαι=λιτ-γομαι (λιτ-ή), κορύσσω=κορυθ-γω. In these and similar cases the *y* probably, through influence of the preceding dental, passed into the dental sibilant σ (*s* in 'sits'), which then was either assimilated by, or assimilated, the preceding dental: e.g. λιτ-γο-μαι became λιτ-σο-μαι, which, by regressive assimilation, (a) became λίσσομαι, or by progressive (b) λίττομαι. With gutturals, the *y* sound changed the guttural to a dental (Dentalism, see above, p. 50), which then produced the result just described. Thus ἥσσω, ἐλάσσω=ἥκ-γων, ἐλαχ-ίων (cp. ἥκ-ιστος, ἐλάχ-ιστος), ἀνασσα=ἀνακτα, ὄσσα=ὄκτα, νοχ; πέσσω=πεκγω (root πεκ, coq.), and so with many verbs whose present tense ends in -σσω, but the stem in a guttural—e.g. πράσσω, (πραγ-), φράσσω (φρακ-, Latin *farci-o*), πτύσσω (πτυχ-ή), ἀλλάσσω (ἀλλαγ-ή), κηρύσσω (κήρ-υκ-ος), τάσσω (ταγ-ός), λεύσσω (λευκ-ός), πτήσσω (ἔπτακ-ον), τaráσσω (ταραχ-ή).

In Latin the *t* of the suffixes -tus (participial) and -tor with the final letter of the root (especially if a dental) passes into *ss*, e.g. *fissus*=*fid-tus*, *cassus* (Cíc.)=*cad-tus*, *divissum* (Cic.)=*divid-tum*, *fossor*=*fod-tor*. As to the exact process of the change, there are two different views:—(1) Corssen, Schleicher, Curtius, and other leading philologists, assume that it is the result of *progressive* assimilation, the dental of the root being first weakened to *s* (because the Roman ear did not tolerate two dental mutes coming together), and the following *t* assimilated to this *s*; the change of *t* to *s* in cases like *mer-sum*, *lap-sum*, etc., where there is no dental at the end of the stem,

¹ On this and a rival explanation see below, ch. vi.

² On the origin of σσ (ττ) see Peile, ch. viii. pp. 387-390. A fuller, but (the book being out of print) less accessible discussion of the point is given by Curtius, 'Tempora und Modi,' pp. 99-110 (on the formation of verbs in -σσω, -ττω).

Consonant
change :
Assimila-
tion.

being due to false analogy. (2) The other view (expounded by Mr. Roby in the Preface to his Latin Grammar, pp. lvii-lxi) is that *tt*, *dt* became first *ts*, *ds*, and then *ss* or *s*; this second change being due to the fact that *ts*, *ds* were in Latin 'unstable' combinations likely to be soon changed, whereas *st* (the assumed result of the first stage in the process of change of *tt*, *dt* on the other view) is a perfectly 'stable' sound, easy to pronounce and very common in Latin, for any further change of which there would be no phonetic reason. If, for example, *tond-tum* had (as on the other view) become *tons-tum*, this latter need have undergone no farther change (except perhaps to *tos-tum*, which in fact did result from *tors-tum*, the supine of *torreo*, stem *tors-*)¹. Other arguments urged against the first view, are (a) that it does not account (except on the arbitrary supposition of 'false analogy') for the supine in *-sum* from stems ending in *lg*, *rg*, *ll*, *rr*,—*cursum* (*curr-o*), *mul-sum*=*mulg-tum*, etc., and from a few other verbs (*labor*, *jubeo*, *premo*, *maneo*, *haereo*, etc.) whose perfect active is found with *-si*: (b) that the progressive assimilation which it supposes, though possible, is very rare in Latin; (c) that stems originally ending in *s* do not follow the prescribed change from *st* to *ss*: e.g. *ges-tum* does not become *gessum*.

(d) Two sounds coalesce into one letter in Greek, when dental and guttural mediae (δ, γ) are followed by γ: e.g. ἔζομαι = ἐδ-γo-μαι (root *sed-* as in Latin), ὄζω (root *od-*), σχίζω = σχιδ-γω (cp. Latin *scid-* in *scindo*), Ζεύς = Δγεύς, Sanskrit *Dyāus*. ζ is thus a compound letter = δγ and then δς, *s* being the weak sibilant (z), and hence in prosody lengthens a preceding short vowel. As with *xy* (see above, p. 75) so γγ became δγ, and this ζ: thus σαλπίζω = σαλπινγ-γω, σφάζω = σφαγγ-γω (stem as in 2 aor. ἐσφάγγην), πέζος is πεδ-ός, ῥίζα is ρριδγα, φράζω is φραδ-γω (ῥέ-φραδ-ον). In the Boeotian dialect γ was assimilated to δ, producing δδ—e.g. φράδ-δω, σαλπιδδω—or δ initial, Δεύς, Ζεύς.

Incomplete
Assimila-
tion.

(2) Incomplete Assimilation:—

(a) Where the two sounds only approximate to each other, the change not being so fully carried out. This includes

¹ Mr. Peile (Introduction, p. 396) prefers this view to Corssen's.

(a) all those 'euphonic' changes by which the final letter of a root or stem is made to correspond with the first letter of a termination either as tenuis, media, or aspirate—Consonant
change :
Assimila-
tion. it being easier to sound two *tenues*, two *mediae*, or two *aspirates* together. Thus in Greek before dental *tenues*, *mediae*, or *aspirates* (τ , δ , θ) only *tenues*, *mediae*, or *aspirates* respectively of other organs can stand; and the only allowable combinations are $\kappa\tau$, $\pi\tau$, $\gamma\delta$, $\beta\delta$, $\chi\theta$, $\phi\theta$. Consequently we have from $\pi\lambda\acute{\epsilon}\kappa\omega$, $\pi\lambda\epsilon\chi\theta\eta\eta\alpha\iota$ not $\pi\lambda\epsilon\kappa\theta\eta\eta\alpha\iota$: from $\lambda\acute{\epsilon}\gamma\omega$, $\lambda\epsilon\kappa\tau\acute{o}\varsigma$ not $\lambda\epsilon\gamma\text{-}\tau\acute{o}\varsigma$, $\lambda\epsilon\chi\theta\eta\eta\alpha\iota$ not $\lambda\epsilon\gamma\theta\eta\eta\alpha\iota$: from $\delta\acute{\epsilon}\chi\omicron\mu\alpha\iota$, $\delta\epsilon\kappa\tau\acute{o}\varsigma$ not $\delta\epsilon\chi\tau\acute{o}\varsigma$: from $\gamma\rho\acute{\alpha}\phi\omega$, $\gamma\rho\alpha\pi\text{-}\tau\acute{o}\varsigma$ not $\gamma\rho\alpha\phi\tau\acute{o}\varsigma$, $\gamma\rho\acute{\alpha}\beta\delta\eta\eta\alpha\iota$ not $\gamma\rho\alpha\phi\delta\eta\eta\alpha\iota$. So in Latin from *ago* we have *actus* not *ag-tus*: from *traho*, *tractus* not *trah-tus*: from *lego*, *lectus* not *leg-tus*. In most of these cases, actual pronunciation of the words will make the phonetic reason for the change clear.

Before the *tenuis* σ , γ and χ become κ , and β and ϕ become π : $\kappa\sigma$ is then written ξ , and $\pi\sigma$, ψ . Thus from $\acute{\alpha}\gamma\omega$, $\acute{\alpha}\gamma\text{-}\sigma\omega$ becomes $\acute{\alpha}\kappa\omega$ ($\acute{\alpha}\xi\omega$), cp. *recsi* (*rexi*)=*reg-si* from *rego*: $\delta\acute{\epsilon}\chi\omicron\mu\alpha\iota$, $\delta\epsilon\kappa\text{-}\sigma\omicron\mu\alpha\iota$ ($\delta\acute{\epsilon}\xi\omicron\mu\alpha\iota$), cp. *traxi*=*trah-si* from *traho*: and so too with the futures of $\tau\rho\acute{\iota}\beta\omega$ and $\gamma\rho\acute{\alpha}\phi\omega$, or perfect of *scribo*.

(b) Nasals often influence the preceding sound. Thus in Greek before μ a *guttural* tends to become γ , a *dental* to become σ (the dental spirant). So we find $\delta\iota\omega\gamma\mu\acute{o}\varsigma$ not $\delta\iota\omega\kappa\text{-}\mu\omicron\varsigma$ ($\delta\iota\acute{\omega}\kappa\text{-}\omega$), $\beta\acute{\epsilon}\beta\rho\epsilon\gamma\mu\alpha\iota$ not $\beta\epsilon\beta\rho\epsilon\chi\mu\alpha\iota$ ($\beta\rho\acute{\epsilon}\chi\omega$), $\tilde{\iota}\sigma\text{-}\mu\epsilon\nu$ (Attic) for $\tilde{\iota}\delta\text{-}\mu\epsilon\nu$ ($\sqrt{F}\delta$ of $\omicron\tilde{\iota}\delta\alpha$), $\tilde{\eta}\nu\sigma\text{-}\mu\alpha\iota$ not $\tilde{\eta}\nu\tau\text{-}\mu\alpha\iota$ ($\tilde{\alpha}\nu\acute{\iota}\tau\omega$), $\pi\acute{\epsilon}\pi\epsilon\iota\sigma\mu\alpha\iota$ not $\pi\acute{\epsilon}\pi\epsilon\iota\theta\text{-}\mu\alpha\iota$ ($\pi\epsilon\acute{\iota}\theta\text{-}\omega$). A labial before μ becomes μ by complete assimilation (see above, p. 74). In Latin *som-nus*=*sop-nus*, *Samnium*=*Sab(i)nium*. Nasals again are affected by a following consonant: thus in Greek ν before *gutturals* becomes the *guttural nasal* γ ($\sigma\gamma\kappa\alpha\lambda\acute{\epsilon}\omega$ for $\sigma\upsilon\kappa\alpha\lambda\acute{\epsilon}\omega$); and the *labial nasal* μ before *labials* ($\tilde{\epsilon}\mu\pi\epsilon\iota\omicron\varsigma$, $\tilde{\epsilon}\mu\psi\upsilon\chi\omicron\varsigma$); before *liquids*, as we have seen, it is completely assimilated (p. 74). So in Latin *n* before a labial mute or nasal became *m* (*impello*, *imbuo*, *immotus*), though this tendency of pronunciation did not at once affect the orthography of classical Latin¹.

¹ On this point see Munro's 'Lucretius,' *Introd. to Notes*, I. (vol. ii. p. 26, 1st ed.).

Change of *t*
to *s*.

(c) The change of *τ* to *σ* before *ι* in all Greek dialects but Doric [e. g. in 3 singular -*τι*, φησί, Doric φαρί, cp. ἐστί; in abstract substantives in -σι-*ς*=τι-*ς*, φάσις, Homer and tragedians φάτις; when suffix *γα*, *ιο* follows *τ*, e. g. πλούσ-ιος from πλούτ-ος, ἐναύσιος, γερονσία=γεροντ-ια; and in forms like εἰκοσί, Doric *fikati*, Sanskrit *vinçati*, Latin *viginti*, and 3 plural φέρονσι=φερονσι=φέρουσι (Doric)] is perhaps a case of assimilation, occurring first in cases where *ι* with a vowel following represented the semi-vowel *y* sound (e. g. πλούσιος=πλουτ-γο-ς) and exercised an assibilating influence upon *t*, and then extended to all cases of *τ* followed by *ι*, in a preference for the softer sound *σ*. A similar change of *θ* to *σ* before *ι* in the Laconian and Boeotian dialects is evidenced by Aristophanes (*Lysistrata* 86 καὶ τὸ σιώ, cp. also *Ach.* 906). Similarly in late Latin, and in the modern languages derived from it, *ι* following *t*, *c*, *d*, *g* assibilated the preceding consonant, so that by the seventh century A. D. -*tio*, -*cio* were both pronounced -*sho* (whence our pronunciation of words like *nation*, *musician*). The Italians, again, pronounce *ci* like English *ch*, *gi* as *j*, and have *Marzo* from *Martius*, *palazzo* from *palatium*, *mezzo* from *medius*; while the French have assibilated *c* before other vowels also, e. g. *chambre* from *camera*. This assibilation of *ci*, *ti* is sometimes assumed to have taken place in classical times, from the confusion between -*cio* and -*tio* found in the MS. spelling of such words as *condicio*; this confusion being further applied as an argument for the soft pronunciation of Latin *c* before *ι*¹. But this variety of spelling in MSS. is due partly to doubts as to etymology, partly to the assibilation of *ci*, *ti* in popular pronunciation at the time when the extant MSS. were written. Inscriptions (by far the most trustworthy guide in orthography) show no such variety of spelling till comparatively late times, the change of *ci* and interchange of *ci* and *ti* not appearing much before the seventh century A. D., and then chiefly in Gallic inscriptions. The change of *ti* (to *si*) was earlier and more general in the vulgar Latin and other

¹ Roby, 'Latin Grammar,' Preface, pp. xlviii-1; Wordsworth, 'Fragments,' Introd. iii. §§ 23-26.

Italian dialects ; but (according to Corssen, who has gone most elaborately into the evidence¹) it was not established in the speech of educated Romans till the fourth century A. D., though traceable much earlier in isolated forms, e. g. *Acherunsius* for *Acheruntius*, *Hortensius* (in old Latin *Hortentius*), and many names of towns in *-usio*, *-esio*, cp. with others in *-entio*, *-untio* ; compare also *viciens* from *vicesiens* = *vicensiens* for *vicentiens*. There is no variety, in the most trustworthy inscriptions of earlier periods, in the spelling of such words as *dicio*, *conclicio*, *solacium*, *patricius*, *tribunicus*, *contio*, *nuntius*, *indutiæ*, *otium*, *negotium*, *setius*.

Consonant change : Assimilation.

(4) Dissimilation.

Dissimilation, or the euphonic change of one of two *similar* sounds whose concurrence displeases the ear, is, as has been said, of comparatively rare occurrence. One regular case in both Greek and Latin is the change of a dental mute before another dental mute at the beginning of a suffix ; ττ, δτ, and θτ becoming στ ; τθ, δθ, θθ becoming σθ. Thus ἀνυστός = ἀνυτ-τός (*ἀνύτω*) ; ἱστωρ = φιδτωρ ; πιστός, πεισθῆναι = πιθτός, πειθ-θῆναι : in Latin *claustrum* = *claud-trum*, *equester* = *equit-ter*, *est* = *ed-ti* (*έδο*). In Greek, again, one of two aspirate sounds close together is often dissimilated : e. g. θι-θημι becomes τι-θημι, ε-θυ-θημι becomes ετύθημι, and -θι of imperative κλῦθι becomes τι from the preceding aspirate in τύφθητι, σώθητι. In the reduplicated syllable of verbs beginning with two consonants, the consonant sound is lost (e. g. ἔκτονα for κέ-κτονα, ἔγνωκα for γέ-γνωκα) probably from the tendency to Dissimilation. Lastly, in Latin the termination *-alis* is changed to *-aris* when an *l* precedes : e. g. *mortalis*, *lateralis*, but *puellaris*, *popularis*, *volgaris* ; and *Parilia* a variety of *Palilia* (*Pales*).

Consonant changes : Dissimilation.

Besides the changes which result in the substitution of a weaker for a stronger sound, there are others which seem to be due to *indistinctness* of utterance, in the pronunciation of words without sufficient clearness and sharpness to give each letter its proper sound. 'In this case,' says Mr. Peile, 'no other recognised letter is at first heard ; but an indefinite

Changes due to indistinct utterance.

¹ 'Ueber Aussprache,' etc., i. pp. 46-67.

amount of indistinct sound is produced after the letter thus slurred; which in time, if this relaxed pronunciation became common, often takes the form of the nearest sound in the existing alphabet. Thus two letters grow out of one, and a word is often actually increased.' As examples of the introduction of additional sound through indistinct pronunciation, we have (following Peile's enumeration), (1) 'Labialism,' the change from *k* to *p*, (2) 'Dentalism,' the change from *k* to *t* [for both these phenomena see above, pp. 50, 51]. (3) The insertion of a parasitic *d* before *y* or *i*. *dy*, we have already seen (p. 76), becomes *ζ* by partial assimilation of *y* to the weak dental spirant *z*: and when we find in Greek *ζυγόν*, but in all the cognate languages *y* of root *yug* or its regular substitute, the conclusion seems warranted that somehow or other a *d* sound, not radical, became heard before the *y*, and that thus this combination *dy* was avoided by passing to *ζ*, as in the cases already noticed. Curtius ('Griechische Etymologie,' p. 551 sq. second edition) gives examples of various forms arising, as he thinks, from the combination of *y* with a parasitic *d* from indistinct articulation: e. g. (a) *ζ* in *ζυγόν*, in *ζυγὰν* (*yam*), in *ζωμός* and *ζύμη* (Sanskrit *yūsha*, Latin *iūs*), in which is *δ* radical. The double verb forms *-αζω*, *-αω* are explained by Curtius on the same principle: *-αω* being a variation from *ayω* with the loss of *y*, it is assumed that before *y* fell out it may have given rise to a parasitic *δ*—a very ingenious and not impossible explanation. (b) *δι*, in the adjectival termination *-διο-s*, which Curtius regards as arising from the common *-ιο-* or *-yo-*; this termination *-διο-* being always preceded by a vowel, after which the sounds *ιο* would be difficult to pronounce clearly. (Others, however, consider that *-διο-* is weakened from original *-ryo-*: and the etymology is at best very doubtful.) The same applies to a few terminations in *-δεος*, e. g. *ἀδελφί-δεος*, where *δ* is not radical, but an original *ryo* might also be assumed. (c) *dy* loses the original *y*, so that parasitic *d* only remains, e. g. in the Boeotian *δυγόν* for *ζυγόν*, *ιεπαδγω* (*ιεράζω*), or *ιεπαγω* (*ιεράω*). *δυγόν* is strong evidence for the theory of the rise of *ζ* in *ζυγόν*: but we can hardly

Parasitic *d*
before *y* or *i*.

enough certainty either as to original form or meaning to pronounce a verdict upon other cases to which Curtius applies theory—e.g. the particles $\delta\eta$, $\delta\eta\nu$ and suffixes $-\delta\epsilon$ and $-\zeta\epsilon$ asifications of $(\delta)y\epsilon$ from the pronominal root ya ; or adverbs $-\delta\eta\mu$, $-\delta\alpha$, patronymics in $-\delta\alpha$, and nominal stems in $-\alpha\delta$ or $-\alpha\delta\eta$ arising from the adjectival suffix $ya(\omega)$ with a parasitic δ . The rarity however of δ and great frequency of y as an element in stem-formations of Indo-European languages make it difficult to find any other way of harmonising these Greek forms with those of kindred languages: and it is fairly urged by Curtius and his supporters that a process which every one allows in some cases (e.g. $\zeta\upsilon\gamma\acute{o}\nu$ and $\delta\upsilon\gamma\acute{o}\nu$, cp. with *iug-um*) is at least possible in others¹.

Parasitic δ
before y or i .

(4) The aspiration of unaspirated letters (in words where none of the cognate languages exhibit an aspirate or its substitutes) is found to some extent both in Sanskrit and Greek; a parasitic h being produced, most commonly by influence of an adjoining nasal or liquid or preceding σ , as in $\acute{o}\delta\acute{o}\varsigma$, $\kappa\lambda\acute{\epsilon}\iota\theta\rho\alpha\nu$ (the suffix $-\tau\rho\alpha\nu$), $\tau\acute{\epsilon}\phi\text{-}\rho\alpha$ (Latin *tep-eo*), $\lambda\acute{\upsilon}\chi\text{-}\nu\omicron\varsigma$ ($\lambda\upsilon\kappa\text{-}$, *luc-eo*), $\acute{\epsilon}\xi\alpha\pi\acute{\iota}\nu\eta\varsigma$ ($\acute{\epsilon}\xi\alpha\pi\acute{\iota}\nu\eta\varsigma$), $\sigma\chi\acute{\iota}\zeta\omega$ (*scid* in *sci(n)do*), and perhaps $\sigma\theta\acute{\epsilon}\text{-}\rho\alpha$ (if a strengthened form of *sta* which in Sanskrit becomes *stha*). In other cases no cause for the change is apparent beyond mere laziness operating irregularly, and affecting only some words permanently, e.g. $\beta\lambda\acute{\epsilon}\phi\alpha\rho\alpha\nu$, $\sigma\phi\acute{o}\varsigma$, $\sigma\alpha\phi\acute{\eta}\varsigma$ (*sap-* of *sap-io*). In Latin the aspirates had early disappeared; but irregular aspiration at the beginning of a word seems to have been known both in Latin and Greek. Both peoples left out the aspirate where it ought to begin a word, and in both there was a tendency to replace it where it had no right to be; just as in vulgar English the h is often regularly dropped, and almost as regularly inserted before a vowel where it is not required. There seems to have been a tendency in Greek to aspirate an initial v , e.g. $\acute{\upsilon}\delta\omega\rho$, $\acute{\iota}\pi\acute{o}$, $\acute{\upsilon}\sigma\tau\epsilon\rho\omicron\varsigma$, a tendency which is intelligible if we suppose the sound of v to have been something like German v , which is difficult to pronounce without a breath

Aspiration of
unaspirated
letters.

of a similar phenomenon in other languages are—Italian *giacere*, *maggiore* (from Latin *jacere*, *hyacinthus*, *major*); Modern *μάγιον*; Gothic *daddja* (O. H. G. *tajā*; Skt. *dhayāmi*).

slipping out before it. The Aeolic ἄμμες (ἡμεῖς) is probably right: ἡμεῖς resting on a false analogy from ὑμεῖς, where ' represents *y*. In other cases, e.g. ἵππος, cp. with ἵκκος, *equus*, etc.; ἔως in Attic Greek (other dialects having smooth breathing); ἀμαρτρεῖν (Attic), cp. with ἡμβροτον (Epic); there seems nothing to account for the aspirate, which is perhaps due to mere mistake.

Aspiration
in Latin.

In Latin the insertion of *h* was of later date, never being found, according to Corssen, upon Republican inscriptions. After *p*, *c*, *t*, *r* it occurs chiefly in Greek words, but not before 100 B. C. and not generally before 50 B. C. About this period there appears to have begun a tendency to insert in pronunciation, and also in writing, a superfluous *h*: thus Cicero (Orat. 48, § 160) says that at one time he spoke as the old Romans did, *pulcros*, *Cetegos*, *triumpos*, but afterwards conformed to the ordinary practice and said *Pyrrhus*, *Phryges* (not as Ennius wrote, *Burrus*, *Bruges*); but still *sepulcra*, *coronas*, *lacrimas*, etc. Catullus wrote a well-known epigram (lxxxiv. ed. Ellis) ridiculing the pronunciation of *chommoda*, *hinsidias*, etc.: and according to Quintilian (I. O. i. 5, 20) some inscriptions in his time had *choronae*, *chenturiones*, *praechones*. In late inscriptions (fourth century A. D. and onwards) the utmost irregularity is seen, *h* being omitted and inserted almost at random, e.g. *hac* (*ac*), *hornat*, *hextricata*, *haditus*, *hauctoritas*, *omini*, *abitat*, *inospita*; from which we infer great confusion and uncertainty in the use of the aspirate in the ordinary pronunciation of those who cut the inscriptions. Finally in modern Italian the *h* is not sounded at all.

In MSS. of the best classical authors and in the writings of grammarians there is a good deal of uncertainty in the spelling of particular words, the errors being more often in omission of *h* (from reaction, probably, against the tendency noticed by Cicero and Catullus). The preferable spelling, for example, of the following words is *harundo*, *harena*, *heres*, *holus*, *hordeum*, *haruspex*, *hedera*, *erubus*, *umerus*, *umor*: but all these are constantly spelt otherwise in the best MSS.¹

(5) Auxiliary Vowels (prefixed or inserted).

¹ See Munro's 'Lucretius,' Introd. to Notes, I.

An auxiliary (inorganic) vowel, purely phonetic in its origin, is found most frequently before λ, ρ, μ, ν, and rarely before an explosive sound; never before τ, π, φ. A protracted or fricative sound has something of a vowel character (see above, p. 32) about it, and it is therefore easy for a vowel to slip out before such a sound; whereas before a momentary (explosive) sound the vowel must be deliberately and consciously sounded. This additional ('prosthetic') vowel is sometimes found at the beginning, sometimes in the middle, of a word; oftenest as α or ε, less often as ο or ι, seldom as υ. Examples in Greek; (a) *initial*; ἀ-στήρ (cp. Latin *stella*=*ster-ula*, Vedic Sanskrit *star*, German *Stern*, our *star*): ἀ-σπαίρω (an easier form of σπαίρω); ἐ-λαχύς (Sanskrit *laghu-s*, Latin *levis*=*legu-is*); ἐ-μέ, ἐ-μοί, cp. with με, μοι (stem *ma*); ἐθέλω, θέλω; the Homeric ἐφέργειν, ἐφείκοσι, ἐφέρση, etc.¹; δ-νομα (Sanskrit *nāman*, Latin *nomen*); δμφαλος=δ-νάφαλος (*navel*); δ-δούς (stem ὀδοντ-, Latin *dens*, Sanskrit *danta*). In these and similar cases (a limited number in all) the vowel seems to be merely phonetic, the result of careless articulation.

(b) *Medial*. Here the case is not always so clear, because the fuller form may sometimes be the older and have lost its vowel. Thus ὀρέγω quoted by Schleicher (Comp. § 46), as referable to a root *arg* with ε inserted, is as likely to be from a root *rag* (Latin *reg-o*) with an initial prefix ο. ἀλ(ε)γεινός, ἡλ-υ-θον (root ελθ-), ἀλ-έ-ξω (ἀλκή, Latin *arc-eo*), are more probable cases. In the conjugation of many verbs we find a secondary stem formed by the phonetic addition of ε alternating with the original stem. Sometimes the enlarged stem forms the present, the shorter stem the other tenses, as γηθ-, γηθέ-ω, γέγηθ-α; δοκ-, δοκέ-ω, δέ-δογ-μαι: sometimes *vice versa*, as μαχ-, μάχ-ο-μαι, ἐ-μαχε-σάμην, οἶχ-, οἶχο-μαι, οἰχή-σομαι. (Curtius' Greek Grammar, §§ 325, 6.)

In Latin there is but little evidence of a vowel as a phonetic prefix; *enim* (cp. *nam*) and *e-quidem* (*quidem*) being almost the only instances.

¹ It is, however, possible that the ο- of *δνομα* may be part of the primitive root: cp. Irish *aimu* and Old Prussian *emnes* suggesting an earlier form *an-man*.

Auxiliary
consonants.

(6) Insertion of Auxiliary Consonants.

In Greek between $\nu\rho$, $\mu\rho$, $\mu\lambda$; $\acute{\alpha}\nu\text{-}\delta\text{-}\rho\acute{o}\varsigma = \acute{\alpha}\nu\rho\acute{o}\varsigma$ (stem $\acute{\alpha}\nu\rho\text{-}$); $\mu\epsilon\sigma\eta\mu\epsilon\beta\rho\acute{\iota}\alpha = \mu\epsilon\sigma\eta\mu\epsilon\rho\acute{\iota}\alpha$ ($\eta\mu\acute{\epsilon}\rho\alpha$): $\acute{\alpha}\mu\beta\rho\acute{o}\tau\omicron\varsigma = \acute{\alpha}\mu\rho\acute{o}\tau\omicron\varsigma$ (stem $\mu\rho\text{-}$, Latin *mor-*); $\mu\acute{\epsilon}\mu\beta\lambda\omega\kappa\alpha = \mu\epsilon\mu\lambda\omega\kappa\alpha$ (stem $\mu\omicron\lambda\text{-}$). $\beta\rho\acute{o}\tau\omicron\varsigma$ is for $\mu\beta\rho\acute{o}\tau\omicron\varsigma = \mu\rho\acute{o}\tau\omicron\varsigma$; $\beta\lambda\acute{\iota}\tau\tau\omega$ for $\mu\beta\lambda\acute{\iota}\tau\tau\omega = \mu\epsilon\lambda\acute{\iota}\tau\text{-}\gamma\omega$; in both cases the β is parasitic.

In Latin p between *ms*—*hiemps*, *sumpsi*.

In modern languages French *gendre* (*gener*), *nombre* (*numerus*); English *humble* (*humilis*), *Ambleside* (= *Hamal-seat*; *Hamal* being a Norse name), are examples of similar phonetic insertion of *b*, *d*.

National
peculiarities
of utterance.

In the foregoing pages an attempt has been made to refer most of the changes of sound that have been noticed to one uniform principle, viz. the tendency to weak articulation and the desire to secure the easiest pronunciation. But in tracing the operation of such tendencies it must be remembered that the difficulty of uttering a particular sound varies with different tribes and nations. It varies, as we know, with different individuals sometimes from organic defect, sometimes from want of practice; and such varieties of pronunciation, unless deliberately corrected or successfully fought against, become permanent peculiarities¹. Hence (to take examples from English) we have people who cannot pronounce *r*, who 'lisp' the sound of *s* as *th*, who pronounce *v* as *w* and *vice versa*. And so with nations; certain sounds or classes of sounds are preferred or avoided², are more or less frequently or seldom pronounced: and in this way, on the separation of different tribes from a common stock, the same words take different shapes among different tribes, the ambiguous or intermediate sounds being differently fixed or differently developed. In Professor Max Müller's Lectures, Series II. Lecture iv. pp. 171-183, etc., will be found a number of illustrations (a) of the absence or presence of certain sounds in the speech of particular nations, (b) of the different shapes which the same root exhibits in different languages; from which a few selections are here made.

¹ See Max Müller's 'Lectures,' II. Lect. iv.

² Whitney, 'Life and Growth of Language,' p. 72.

(a) The dentals seem to be the easiest sounds; they are the most universally employed and are the first uttered by children. But it is said that the dental media *d* does not occur in Chinese nor in three American dialects. Again, some of the Polynesian (Turanian) languages have no gutturals, and some North American dialects no labials: while in the language of the Sandwich Islands the gutturals and dentals are indistinguishable. The *tenuis* and *mediae* are not distinguished in the Polynesian dialects, and are often confused by the Welsh, who say *Tavit* for *David*, *pet* for *bed*. Sanskrit shows many weakened forms of consonants, due perhaps in some measure to the effects of the enervating climate of India: e. g. the palatal sibilant ञ (9) which arises from careless pronunciation of *k* without bringing the root of the tongue firmly against the back of the palate; or the 'palatal' sounds ञ, ण (c. *j*) which are weakenings of *k* and *g* respectively. Sanskrit has the aspirated mediae *gh*, *dh*, *bh*, which were difficult sounds to most other Indo-European nations (see above, p. 34). Greek retains the aspirated *tenuis* *χ*, *θ*, *φ*: Latin has neither. The comparative peculiarities of Latin and Greek with respect to final sounds have already been noticed (p. 72).

(b) The variation of the same root in different languages may be illustrated by 'Grimm's Law' of regular interchange between (1) Sanskrit, Greek, and Latin taken as one group, (2) Gothic and Low German dialects (including English), (3) High German and its stock (including modern German); the one having an *aspirated mute* (or fricative representing the aspirate) where the second has a *media* and the third a *tenuis*. The following formula will express this law:—

| | I. | II. | III. |
|--------------------------------|----------|----------|----------|
| (1) Sanskrit, Greek, Latin . . | Aspirate | Media | Tenuis |
| (2) Gothic and Low German. . | Media | Tenuis | Aspirate |
| (3) High German, etc.. . . . | Tenuis | Aspirate | Media |

The following table gives a simple illustration of its working; *initial* letters being taken as freest from the influence of

Grimm's Law.

neighbouring consonants, and *dentals* as offering the most regular illustration. Fuller illustrations are given in the table below, p. 91:—

| | | | | | | |
|------|------------------------------|----------|--------|--------|--------|---------|
| I. | | | | | | |
| 1. | { Greek θ | θυγάτηρ | θήρ | θήρα | μέθυ | |
| | { Latin f | | fera | fores | | |
| 2. | English d | daughter | deer | door | mead | |
| 3. | German t or th = t | tochter | thier | thor | meth | |
| II. | | | | | | |
| 1. | { Greek δ | δδούς | δαμᾶν | δύο | ἔδ-ειν | ἔδωπ |
| | { Latin d | dens | domare | duo | edere | unda |
| 2. | English t | tooth | tame | two | eat | water |
| 3. | German z or s ¹ . | zahn | zähmen | zwei | essen | wasser |
| III. | | | | | | |
| 1. | { Greek τ | τύ (ov) | τρεῖς | τό | | |
| | { Latin t | tu | tres | tenuis | is-tud | frater |
| 2. | English th | thou | three | thin | that | brother |
| 3. | German d | du | drei | dünn | das | bruder. |

The principal exceptions to this law of change are thus classed in Ferrar's Comparative Grammar, pp. 34-38.

1. Onomatopoeic and imitative words, and natural sounds: e.g. ὕλακτῶ, English *howl*, German *heulen*; κλαγγή (Latin *clango*), English *clank, clatter*, etc., Old Norse *klaka*; μᾶμη, ἄπα, (*mamma, papille*), English *mamma, papa*, German *Amme*, (from the natural sounds *ma, pa*) ; Sanskrit *tāta* (dear), Greek *τέρτα, τίθη*, etc., English *tit, teat*, Old High German *tutto* (breast).

2. Borrowed words, in which the sound of the original language was naturally retained.

3. Regular exceptions in the consonantal groups *sk, st, sp*. Thus in Latin *stella*, English *star*, German *Stern*, the *st* sound is identical; the hard *s*, in fact, not being easily pronounced with any sound but a hard one.

4. Where sounds have been irregularly changed within the same language. Thus the change from Sanskrit *dvāra* to

¹ So a Greek aspirate frequently corresponds to Latin *s* (see above, p. 66).

English *door*, German *Thor* (Old High German *tor*), would be exceptional, did not *θύρα*, *fores* show that *d* of *dvāra* represents an original aspirate *dh*. So in Sanskrit *budhna* (root), (English *bottom*, Old High German *bodam*), *b* represents *bh* of Indo-European *bhudhna*.

The process of this 'Lautverschiebung,' or Dislocation of Consonants, between the languages in question, is thus traced by Professor Max Müller (Lectures, Series II. Lecture v).

1. The physiological analysis of sound shows, at each of the three points of consonantal contact, four possible varieties of pronunciation—viz. a *hard* sound (*tenuis*), or a *soft* sound (*media*), or aspiration by an audible emission of breath immediately after utterance of the hard or soft sound. Thus we have :—

Original process of the changes formulated in Grimm's Law.

| | |
|--------------------|---------------|
| Guttural | k, kh, g, gh. |
| Dental | t, th, d, dh. |
| Labial | p, ph, b, bh. |

2. The development of, and maintenance of, the distinction between these varieties of articulation is characteristic of the increasing development of languages, in which new ideas are constantly requiring expression, and the phonetic organs are consequently driven to new devices which gradually assume a settled and traditional form. There was probably a time when the Indo-European peoples (as yet un-separated) had no aspirates at all: and while some dialects never arrived at more than one set of aspirates, others ignored them altogether or lost them again in course of time. But it seems likely that before the separation of the Indo-European peoples, some of them at any rate had elaborated a threefold modification of consonantal contact—*tenuis*, *media*, and *aspirate*—thus securing in many cases (e. g. the root *tar*, 'to cross,' *dar*, 'to tear,' *dhar*, 'to hold') distinct utterances for distinct expressions. The distinction thus gained was kept up in Sanskrit by *tenuis*, *media*, and *aspirated media* (*t*, *d*, *dh*); and in Greek by *tenuis*, *media*, and *aspirated tenuis* (*τ*, *δ*, *θ*). But in Latin, where the aspirates had not been realised at all, the distinct utterance of the third (or aspirated) variety of consonantal sound would naturally be lost. Thus (to take a case where only two roots, one containing an aspirated sound, had to be distinguished) in

Grimm's
Law.

Sanskrit we have *da-dā-mi*, 'I give,' and *da-dhā-mi*, 'I place;' Greek keeps up the distinction in *δί-δω-μι* and *τί-θη-μι*; Latin is obliged to give it up, and retains only one of the two roots in *da-re*, 'to give,' replacing the other by different words, such as *facere* or *ponere*. But *credere*, *condere*, *abdere* point back to the root *dhā*, 'to place,' as having existed originally in Latin as in other cognate languages. The Teutonic tribes again, who had no aspirates, tried nevertheless to maintain the distinction between the threefold varieties of consonantal contact, which had come to them as 'the phonetic inheritance of their Aryan (Indo-European) forefathers:' and it is in their endeavours to supply the place of the aspirates in words common to them with the other Indo-European nations that Professor Max Müller sees the first step in the progress of 'Lautverschiebung.' Where Sanskrit had aspirated *mediae*, and Greek aspirated *tenues*, Gothic (like Celtic and Slavonic) preferred the corresponding *mediae*, High German the corresponding *tenues*. None of these, however, borrowed from, or came after, another; they are 'national varieties of the same type or idea.'

3. Thus far 'Lautverschiebung' is the representation of aspirate sounds by nations which did not possess them: but the stock of common Indo-European words which began with *mediae* (*g, b, d*) and *tenues* (*k, t, p*) led to further changes in Gothic and High German utterance. These nations having, as we have seen, already used their *mediae* and *tenues* respectively to supply the place of the aspirates, found themselves in a difficulty. The Goths, for instance, felt the distinction between the two series of consonantal sounds which Sanskrit kept distinct as *gh, dh, bh* and *g, d, b*; but they had already employed the second to denote the first; and so, in order to keep them distinct, fixed this latter series *g, d, b* in their own national utterance as *k, t, p*. Then arose the same difficulty of maintaining distinct the third series of sounds which Sanskrit and Greek had fixed as *k, t, p*; and the only remaining expedient was to adopt the corresponding 'hard breaths' *h, th, and f*.

Similarly the High German tribes, having taken the sounds which Greek took as aspirate *tenues*, *χ, θ, φ*, to be *k, t, p*, were

driven to adopt the breaths *ch*, *z*, *f* as the second variety; while Grimm's Law. for the third variety nothing was left but the *mediae*, which however in the guttural and labial series have constantly been replaced by Gothic *h* and *f*.

If we denote the aspirates by (i), the *mediae* by (ii), the *tenuis* by (iii), and the breaths by (iv), the following table will exhibit the process just described :—

| | Original Aspirate. | Media. | Tenuis. |
|-----------------------|--------------------|----------------|--------------------------|
| A. } Sanskrit | (i) gh, dh, bh. | (ii) g, d, b. | (iii) k, t, p. |
| B. } Gothic | (ii) g, d, b. | (iii) k, t, p. | (iv) h, th, f. |
| A. } Greek | (i) χ, θ, φ. | (ii) γ, δ, β. | (iii) κ, τ, π. |
| C. } High German . . | (iii) k, t, p. | (iv) ch, z, f. | (ii) (g), d, (b). h f |

The chief objection to this theory of the changes of Grimm's Law is, as Mr. Peile points out (in note 1 to his 5th chapter), the want of sufficient motive for the *second* variation. The first obviously arose from the desire to get rid of the objectionable aspirates, which were expressed by the *mediae* in Gothic, the other changes following from a desire for clearness. But it is not so easy to see why, when the aspirates were gone, and only the breaths *h*, *th*, *f* left, the High German speech should have made any further change. Nor is it easy upon any theory to account for the first variation in the Gothic and Low German dialects, from the *mediae* or sonants *g*, *d*, *b* to the *tenuis* or surds *k*, *t*, *p*; for all analogy of languages shows that phonetic change is from harder to easier sounds (i. e. from *tenuis* to *mediae*) and not *vice versa*, so that *kin*, for example, would be at once assumed to be an earlier not a later form than *genus*, γένος. The facts are indisputable; but they seem to contradict one of the most invariable and best authenticated laws of speech. Nor has any theory yet been devised which is satisfactory at all points. We can only say generally of the changes for which we cannot account that they are possibly examples on a large scale of that tendency to maintain the distinctive features of a word against the influence of phonetic decay, an example of which is seen in the 'compensatory lengthening' of a syllable to make up for some loss of

sound; and which may often be discerned in a struggle of the intellectual or instinctive desire to preserve those parts of a word that are characteristic of its meaning against the physical tendency to reduce the effort of articulation.

The regular action of Grimm's Law is sometimes interfered with by other agencies, e.g. by the accent. To this are due such forms as *Mutter*, *Vater*, beside *Bruder*; for in Sanskrit we have *mātár*, *pitár* (cp. Greek *πατήρ*) accented on the last syllable, but *bhrátar* (*φράτερ*) accented on the first. Such different forms, again, as *sieben* and *fünf* (seven and five) are accounted for by finding *saptán*, *ἑπτὰ*, but *pánchan*, *πέντε*. Again, the various phonetic tendencies in different languages—e.g. assimilation, the loss of *s* between vowels in Greek, or its change into *r* in Latin—may interfere with the operation of Grimm's Law; or, to speak more correctly, it may account for the non-occurrence under certain conditions of those observed phonetic facts of which that 'Law' is the statement and generalisation.

General Table of Grimm's Law.

| Original Sounds. | A. | | | B. Gothic and Low German. | C. High German. |
|------------------|-----------|--------|--------|------------------------------------|-----------------------|
| | Sanskrit. | Greek. | Latin. | | |
| I. Aspirates { | KH | gh (h) | χ | h, f (g, v) | g |
| | TH | dh (h) | θ | f (d, b) | d |
| | PH | bh (h) | φ | f (b) | b |
| II. Mediae { | G | g (j) | γ | g | k |
| | D | d | δ | d | ch |
| | B | b | β | b | t |
| III. Tenuis { | K | k | κ | c, qu | (p) ¹ † |
| | T | t | τ | h, g (f) | f, ph |
| | P | p | π | th, d | h, g, k |
| | | | | f, v | d |
| | | | | | f, v |

¹ There are few really Saxon, and no Gothic (unless foreign), words beginning with *p*. In Sanskrit, too, the consonant *b*, which ought to correspond to Gothic *p*, is seldom, if ever, an initial sound, its place being occupied by *v*. Hence this particular phase of Grimm's Law is inserted without illustration by both Bopp and Max Müller, to complete the scheme.

Examples to illustrate Grimm's Law (chiefly from Bopp).

| Original Sounds. | A. | | | B. | | C. | |
|-----------------------|-----------------------|--------|----------|------------------------|--------------|------------------|-----------------|
| | Sanskrit. | Greek. | Latin. | Gothic and Low German. | English. | Old High German. | German. |
| I. Aspirates:— | | | | | | | |
| KH | hanasas | χῆρ | (h)anser | gans | goose | gans | gans |
| | hyas | χῆς | heri | dins | gall | tior | |
| | | χολῆ | fel | | deer | | |
| TH | madhu | μέθυ | fera | | mead | gira | thier |
| | bhar | φάρ | fero | baira | bear | pröder | |
| PH | bhrātā(r) | φράτα | frater | brothar | brother | | |
| II. Mediae:— | | | | | | | |
| G | janas | γένος | genus | kuni | kind | chunni | zwei |
| | janu | γόνυ | genu | kniu | knee | chniu | |
| D | dvan ¹ | δύο | duo | tvai | two | zwei | zimmer |
| | danas | δάνος | domus | timr | timber | | |
| B | | | | | | | |
| III. Tennes:— | | | | | | | |
| K | bhidagya ² | βηδικά | cor(d) | hairth | heart | hērza | du |
| | kas | κός | quis | hvas | who | hiruz | |
| T | tram | τέρας | cornu | heorot | hart | drl | drei |
| | trayas ³ | τρεῖς | tu | thrais | thou | | |
| P | tanus | τανός | tenuis | fōtus | thin | fnoz | fuss (f = asp.) |
| | padas | πάδος | pes | fulls | foot (f = b) | vol | |
| | pūras | πούρος | plenus | | full (f = b) | | voll |

¹ Nom. dual.² An irregular form; we should expect krid-.³ Nom. plural.

CHAPTER V.

FORMATION OF WORDS.

Elements
of language.

LANGUAGE is made up of articulate sounds combined into words. These sounds, however, convey no meaning in themselves (except in a few cases of interjectional sounds): and it is only when *words* are formed that we have language properly so called, the medium of communication between men, the means of expression of human thought. Thus, although to understand the changes and varieties in the outer form of language, it is necessary to investigate the nature of sounds and their production by the physical organs of voice—the ‘Phonology’ or ‘Sound-Lore’ of linguistic study; the ultimate facts in language regarded as an expression of thought or meaning are *words*—or rather, the elements, or several combinations of sounds expressive of meaning, into which a careful analysis shows that all words can be divided—i.e. ‘Morphology’ or ‘Word-Lore’¹. These elements are broadly divided into ‘radical’ and ‘formative’—i.e. on the one hand, that portion of the word which gives its general meaning in the simplest and most rudimentary form; on the other, all

Analysis of
words.
Radical and
Formative
elements

¹ Some references to books which treat more fully of these questions than is possible here, may be of service to the student. Thus, on Phonology: Schleicher, ‘Compendium,’ §§ 1-204; Ferrar, ‘Comparative Grammar,’ ch. i-vi. §§ 1-86; Peile, ‘Introduction to Greek and Latin Etymology;’ Roby, ‘Latin Grammar,’ Book I. §§ 1-302; Curtius, (The Student’s) ‘Greek Grammar,’ §§ 1-99; and ‘Elucidations,’ pp. 17-47. On Morphology: Schleicher, §§ 205-241; Ferrar, ch. vii. viii. §§ 87-127; Roby, Book III. §§ 740-999. In Curtius’ ‘Greek Grammar’ and ‘Elucidations’ the formation of Noun and Verb stems is treated as a part of Noun and Verb Inflection.

those additions which vary or define or restrict this general idea, or adapt the word for its place among, and its relation to, other words combined into a sentence for the expression of thought. The *radical* element of a word is termed the *root*: while under the term *formative* elements are included (1) those modifications of the root either by 'dynamic change' or by the addition of suffixes (themselves originally independent roots), by which it becomes a Noun- or Verb-'Stem'; (2) the inflections expressive of Case, Number, or Gender, Tense, Mood, or Person, by which these Noun- or Verb-Stems are enabled to express so many various shades of meaning when placed in relation to each other as parts of a sentence.

[It should be noted here, that this division into Noun and Verb ('Nominal' and 'Verbal' Stems or Bases) is exhaustive of Indo-European words. In all Indo-European languages (and therefore in Greek and Latin) there are originally only two kinds of words distinguished as *noun* (*ὄνομα*) and *verb* (*ῥήμα*). The faculty of language in man leads him first to give *names* (*nomina*, *ὀνόματα*) as signs expressive of conceptions, and then leads him to form *verbs* (*verba*, *ῥήματα*) to express that which 'is said' about or predicated of the conception expressed by names. All other 'Parts of Speech' designated by grammatical analysis have been developed out of one or other of the two main classes of Nouns and Verbs. This is sufficiently obvious with *Adverbs*, which are often merely case-forms of existing nouns, substantive or adjective (e.g. *δίηνυ*, *ἰνstar*, *τορνα tuens*, *πλείον*, *πλείστα*), and can generally be traced back to archaic, or mutilated, or otherwise altered case-forms. The same applies to *Prepositions*, which grammatical analysis shows to have been originally adverbs¹, separable alike from the cases with which they are used, and from the words with which they are compounded in classical Greek or Latin; many prepositions being still used in those languages as adverbs (e.g. *ante*, *circum*, *contra*, *extra*, etc.). So too with *Conjunctions* and all 'Particles,' though it is not always possible to

Division of words into Noun and Verb exhaustive.

¹ See Curtius' (The Student's) 'Greek Grammar,' §§ 444-446; 'Elucidations,' ch. xvii. pp. 200-202.

trace the original form in words which, being in very constant use and not as the most essential words in a sentence, are the more liable to corruption and decay in utterance. In words however such as *ὅτι*, *quod*, *quia*, *quam* it is obvious; *que* is some case form of *qui*; *ὅς* is evidently adverbial, and *ut* is merely its phonetic equivalent; *non*=*ne unum*; and *ne*, *nei* is evidently a case form; and similarly, numbers of examples might be produced, were we concerned now with more elaborate proof of the statement here given¹.]

Roots.

By a 'root' we mean the simplest combination of sounds which expresses the general meaning of any word or set of kindred words, e.g. *da* is the root of Sanskrit *da-dā-mi* (*δίδωμι*), *da-mus*, *da-tur*, etc., Sanskrit *dā-tar* (*δοτήρ*), etc.: *jug* of *ju(n)go jug-um* (for the nasal sound *n* in present stem cp. *λαμβάνω*, *ἔ-λαβ-ον*).

The formative elements, suffixes and inflexions, which form words from simple roots, are originally independent roots. Thus in *δίδωμι*, *da-dā-mi*, *mi* is a weakened form of *ma* the pronominal element of first person; in *vox* (*voc-s*), Sanskrit *vāk* (= *vāk-s*), *s*=*sa* demonstrative pronoun.

Thus every I. E. word is a whole gradually sprung from several, or at least two, 'roots.' The first of these is the 'root' in the ordinary acceptation of the term, i.e. *that which conveys the meaning* in general; the others have degenerated into suffixes for expressing modifications of meaning.

In the 'Isolating' or 'Radical' stage of language, the roots remain separate and distinct: *i-ma*.

In *Agglutinative* languages the principal root remains the same, but receives an addition in the form of a changeable prefix, suffix, or infix: *i-ma* or *i-mi*.

The *Inflectional*, or highest type of language, alters the principal root (by reduplication or by raising the vowel) for purposes of expression: *aimi* (Sanskrit *emi*), *εἶμι*².

N.B.—A simple root without modification or addition of suffix cannot form a *word*.

¹ See Appendix II.

² On the three 'stages' of linguistic growth, see ch. ii. pp. 4-8.

Indo-European roots are generally *monosyllabic*¹; and are distinguished as:—

1. *Primary*; e. g. *i* (go), *ad* (eat), *da* (give), *yu* (join).
2. *Secondary*; e. g. *tud* (strike), *yug* (*jug*, yoke, i. e. join), *yudh* (fight, i. e. join battle), *plu* (flow), *ard* (hurt), *spac* (see).

These secondary roots are probably in all cases (as evidently *yug*, *yudh*, cp. with *yu*) modifications of primary roots, by the addition of a letter or letters, expressing usually some extension or limitation of the idea². The additional element may have been in some cases 'dynamic' (see above, p. 51), in others 'phonetic'—i. e. a mere change of sound, afterwards turned to account for the expression of meaning, as e. g. the phonetic variation of the *a*-sound into *a*, *e*, *o* (p. 36).

The primary roots are the most important in the history of language, but their predicative power being generally too indefinite to answer the purpose of advancing thought, they were to a large extent encroached upon and supplanted by secondary roots.

Philologists are not agreed upon the exact definition of a *'root.'* Definition of
'Root.' Professor Max Müller (Lectures I. p. 215) states a root to be 'whatever cannot be reduced to a simpler or more original form.' This, he says afterwards (Lectures, II. chap. iii.) is objected to as making a root a mere abstraction, and so unfit to explain the realities of language; to which he replies that in one sense a root *is* an abstraction; for it is a cause, which we only recognise and arrive at from its effects, viz. words. These effects we hear in language, but not the root itself. At the same time Professor Max Müller seems to maintain the real force of roots—e. g. that the root *da*, in some way or other which we cannot yet explain, has some necessary

¹ Some philologists think that the majority of roots in most languages were of more than one syllable in the earliest stage; and in Indo-European secondary roots such as *yudh*, *mard*, *smar*, &c. would see dissyllabic forms worn down by phonetic decay; *yu-dh*, for example, representing *yu-dha*.

² E. g. from root *tar* (whence *τέρω*, *tero*, etc.) we get the modified forms (*tra*), *tri* (triticum), *tru* (τρίψω, etc.), *tork* (torqueo, δ-τροκ-ής = 'not turned'), *trēm* (τρέπω), *trib* (τρίβω, tribula), *trup* (τρίψανον). *Tra* is a variety of *tri* and *tru* are secondary, by modification of *a* to *i*, *u*.

connection with the idea of '*giving*'—and regards them as 'phonetic types' which we cannot as yet explain, but which alone give us definite forms on which to rest our enquiries into language, standing between us and the 'chaos of onomatopoeia and interjections.' It seems however that, as we cannot know with certainty the ultimate form of these roots, our speculations as to the connection between them and the ideas they express can be little more than guess-work¹.

Those therefore who disbelieve in the existence of, or at least in any chance of finding out, any necessary connection between roots and the ideas expressed by them, prefer to consider roots as 'mere abstractions,' as 'headings' of common elements under which to class words belonging to the same family, as 'labels' or 'tickets' of classification. After all, they say, we can only find out in many cases the simplest forms in individual languages; and if in different languages we find different simplest forms or roots to express the same idea, it is hard to assume in the case of any one of them any inherent or natural power by which it is connected especially with that idea. An example of this view may be seen in Peile's '*Introduction to Greek and Latin Etymology*,' where the definition given by Curtius of a root as 'that combination of sounds which remains when a word is stripped of everything formative' is accepted².

I am inclined to think this latter view is the safest, and the most consistent not only with the present state of the science of language, but with its future prospects. As was said above (chap. i. pp. 2, 3) we arrive by analysis of language at certain primitive and elementary combinations of sounds, which we call '*roots*,' and which, forming as they do the common element in groups of connected or kindred words,

¹ Mr. Peile puts this forcibly and clearly ('Introduction,' p. 42): 'That there was some connection (between idea and form) originally I believe; but I do not believe that it is ever discoverable with certainty: and that it was ever necessary, I deny.' And in support of this position he aptly quotes M. Renan's dictum ('De l'Origine du Langage,' p. 48), '*La liaison du sens et du mot n'est jamais nécessaire, jamais arbitraire, toujours elle est motivée.*'

² Ch. iii. pp. 41-44 (3rd ed.).

we speak of as conveying such and such a meaning. But we must now, and I think always, accept these simplest forms as *ultimate facts* which Philology will never explain to us. Comparison of languages and analysis of words may now and then point to some simpler and more elementary form than has yet been reached: but the prospect of finding out the reason of such forms, and *why* they came to have the meanings which they have in language, is so remote, if not altogether visionary, that it may for all practical purposes be disregarded. And therefore I prefer such a description or definition of roots as assumes nothing with regard to their inherent power of expressing particular meanings, and whether under the title of 'abstractions,' 'labels,' or 'simplest forms' takes them as facts, but *unexplainable facts*. They are, as Professor Sayce puts it (Intro. ii. p. 7), 'the phonetic and significant types discovered by the analysis of the comparative philologist as common to a group of allied words. They form, as it were, the ultimate elements of a language, the earliest starting-point to which we can reach.' And as each family of languages has its own stock of roots, these roots exhibit the characteristics of the family to which they belong; sometimes they are monosyllabic, sometimes polysyllabic; sometimes they must contain a vowel (in Turanian), sometimes no vowel (Semitic and perhaps Chinese).

On this view, then, a root may be defined as 'the simplest ascertained combination of sounds, which expresses the general meaning of any word or set of kindred words in one or more Indo-European languages¹.' Definition of Root.

Roots are for the most part '*predicative*,' i.e. expressive of ideas of action, state, etc.; but there is a limited number of '*pronominal*' or '*demonstrative*' roots (expressive e.g. of such ideas as 'here,' 'there,' 'this,' 'he,' 'I,' etc.), which cannot be

¹ The distinction between roots, stems, and words may be shortly put thus:—The *root* is the original part of the word, giving a certain idea; the *stem* is that idea more closely defined to a certain bearing of it; the *inflected form* (or *word*) is the complete word as used in speech in connection with other words in a sentence. Compare 'Elucidations to Curtius' Greek Grammar,' Translator's Preface, p. vii.

traced back to predicative roots and must be considered independent of those ordinarily so called. These pronominal roots enter considerably into the formation of inflections¹, as well as of the pronouns and pronominal particles (i.e. conjunctions and some adverbs and prepositions).

Stems.

Stems (also called 'bases' or 'themes') arise from roots by modification of the root-vowel, or addition of formative suffixes. Roots express a possibility (potentiality) of action. The stems formed from them denote for verbs the action itself, for nouns the person, state, or thing concerned in or resulting from that action. Thus the root *da*=giving (potential); *da-dā-mi*, *δί-δω-μι*, *do* = 'I give'; *δο-τήρ*, *da-tor* = the person giving, the giver; *δό-σις*=state of giving; *do-num*=thing given. The stem of a word is most readily detected by observing what remains when the 'inflection' (i.e. declension or conjugation ending) is withdrawn.

Inflections.

Inflections are the alterations in or additions to a word, to fit it for different functions as parts of a sentence: the common part which remains the same under these different uses being the stem. Thus in *λόγος*, *dominus* :—

- N. *λόγo-s*.
- A. *λόγo-ν*.
- V. *λόγo-* (stem used interjectionally, and *o* sinks to *e*).
- G. *λόγo-εγο*, *λόγo-ιο*, *λόγo-ο* (*λόγου*).
- D. *λόγo-οι*, *λόγφ*.

The common part *λόγo-* is the stem: the root is *λεγ-*, seen in *λέγ-ω*.

¹ A list of Indo-European pronominal roots is given in Leo Meyer's 'Vergleichende Grammatik,' I. pp. 324-335; cp. Ferrar, 'Comp. Gram.' § 95. The following are among the more important of these roots and their derivatives: *a*, whence probably the augment (in Sanskrit *a*), and possibly *ἐγώ*, *a-σμε-s* (*ἡμεῖς*), etc.; *i*, in *i-d*, *i-pse*, *i-ta*, etc.; *kva* (who), Skt. *ka-s*, Gk. *τίς*, Lat. *quis*; *πῶς*, Ion. *κῶς*, *κα-ί* (a locative), *κεν*; *ta* (demonstrative), whence Gk. *τόν*, *τήν*, *τό*, *οὗτος*, etc., Lat. *is-te*, *ipse*, (for *ip-te*), *tum*, *tam*, *item*, etc.; *da-*, whence *πο-δα-πός*, *δ-δε*, *quando*, *qui-dam*, *unde*, etc.; *sa* (demonstrative), Gk. *ὁ*, *ἡ*; *na*, *an*, *ana*, whence Gk. *νά*, *νῦν*, *νῦν*, *ἄν*, *ἐν*, *ἀνά*, Lat. *nos*, *ne*, *num*, *in*, etc.; *pa*, in *ἀ-πό*, *παρά*, *περί*, *ab*, *pro*, *per*, etc.; *bha*, in Skt. inflections, *-bhyas*, *-bhyaṃ* and *-bhis*, Gk. *-φι*, and Lat. *-bis*, *-bus* of dat. abl. plur.; *ma*, of 1st and 2nd pers. and reflexive pronoun.

| | | |
|------|-----------|---------------------------|
| N. | domino-s, | dominus. |
| A. | domino-m, | dominum. |
| V. | domino-, | dominē (as above). |
| G. | domino-i, | domini. |
| D. | domino-i, | dominō (or illo-i, illi). |
| Abl. | domino-o, | dominō. |

The common part *domino-* is the *stem*: the root is *dom-*, seen in *dom-a-re*, δέμ-ειν, etc.: *-ino-* is a *suffix* added to the root to form a nominal base or stem.

[Note that the *stem* is distinct from the *inflected* word, and must not be confounded even with the Nominative Case, e.g. Distinction
of Stem and
Word.

σωφρον- (seen in oblique cases σώφρον-ος, κ.τ.λ.) is the stem of σώφρων, πραγματ- of πᾶγμα; and Latin words like *consul*, *mulier* have dropped the final *-s* indicating the Nominative Case.]

So *vox*=*vōc-s*. The root is *vōc-* (seen in *vōc-o*): the stem Analysis of
Words.
vōc- by modification of the root-vowel.

φά-τι-s (speech, report), root *φα-*; nominal suffix *-τι-*, inflection *-s*. The same root *φα* is lengthened to form a verbal stem φη-μί: the nominal stem is φατι-.

So in the formation of *Verbs*:—

ἔιμι (*ibo*): root *ι* (in *ι-μεν*); stem *ει*, by modification of root: inflection *-μι*.

ἔιμι (*sum*)=*ἔσμι*, Sanskrit *asmi*. Root and stem (in this case identical) *έσ*. Inflection *-μι*.

ῥο-νν-μ, root *ορ-*, verbal suffix *-νν-* to form the present stem.

φεύγ-ω=φεύγ-ο-μ. Root *φυγ-* (in *ἔ-φυγον*, 2 aor.) modified to form the present stem; inflection *-μ*; 'thematic vowel,' increasing the stem before inflection, *-ω-* (appearing also as *ο* in *φεύγ-ο-μεν*, *ε* in *φεύγ-ε-τε*, and *ο, i, u* in Latin, e.g. *fer-o*=*φέρ-ω*, *fer-i-mus*, *fer-u-nt*)¹.

[Note that in the Conjugation of verbs we must distinguish (Tense-
Stems.) different Verbal-stems called generally 'Tense-Stems,' each the common element of a number of forms of the same

¹ In the first edition of this work the earlier view of Curtius that this *ω* (*ο, ε, ι, u*) is a 'connecting vowel' was adopted; but has now been abandoned for reasons given below (ch. viii).

verb. Thus in the scheme of $\tau\acute{\upsilon}\pi\tau\omega$ we have the 'pure verbal stem' $-\tau\upsilon\pi-$ (seen in 2 aor. $\epsilon\text{-}\tau\acute{\upsilon}\pi\text{-}\eta\nu$); the 'present stem' $\tau\acute{\upsilon}\pi\tau$ —common to all forms of present and imperfect tense; the 'perfect stem' $\tau\acute{\epsilon}\tau\upsilon\phi$ —; the 'weak aorist stem' $-\tau\upsilon\psi\alpha$ —, and the 'strong aorist stem' $-\tau\upsilon\pi$ — identical with the 'pure verbal stem.' The fuller consideration of these will fall under the head of Verb-Inflection (chap. viii), and they are enumerated now by way only of illustration.]

Word-formation.

There are four main processes of word-formation from roots; viz. :—

(1) *Reduplication*—in imitative names and perfect stems, etc.

(2) *Internal Change* by 'raising' or 'intensifying' the root-vowel.

(3) *Addition of Suffixes*.

(4) *Composition*, i. e. the formation of two or more words into one.

Of these processes (1) and (2) have been considered and illustrated under the head of 'Dynamic Change' (chap. iv. pp. 51–55): (4) is generally treated of in the grammar of each language. We are now, therefore, concerned mainly with (3) Addition of Suffixes.

This term 'suffix' is applied by writers on philology to different elements in word-formation, which must be carefully distinguished. Thus we speak of

1. '*Suffixes*' of *Inflection*, i. e. the 'Inflections' properly so called; the case-endings of nouns and person-endings of verbs. These will be considered at length in chaps. vi–viii.

2. '*Formative Suffixes*,' by the addition of which to 'roots' are formed 'bases' or 'stems.' And as bases or stems are either verbal or nominal (above, p. 93), so the formative suffixes may be divided into 'verbal' and 'nominal suffixes.'

a. The *verbal* suffixes are chiefly $-ya$ and aya from which are formed the verb-stems of all the contracted (and many other) verbs in Greek, and of the first, second, and fourth 'conjugations' in Latin [see below in the Appendix to this chapter].

b. The *nominal* suffixes are more numerous: a list of the more important is given on pp. 102, 103. Not unfrequently a nominal stem is used to form a verb as well as a noun; e.g. φυλάσσω is formed from φυλακ-, the nominal stem of φύλαξ (φυλακ-ι), αἰν-ο from αἰν-, the nominal stem of αἰν-ς (a needle). Such verbs are called *nominal* (sometimes *denominative*) verbs.

3. *Stem Suffixes*, a class of verbal suffixes perhaps originally formative like *ya* and *aya*; but unlike these, found only in the present and kindred tenses. Such are *na*, *nu* (μαρ-να-μαι, σπερ-νο, δεικ-νυ-μι, etc.); *ska* (verbs in -σκω, -σκο); *ta* (βλάπ-τ-ω, τίκ-τ-ω, *necto*, etc.); and according to Schleicher the 'thematic' vowel *a* (bhar ā-mi, φέρ-ω(μι), etc.). Most common however as a stem-suffix is *ya*, appearing as *ι* in ἰδ-ί-ω, δα-ί-ω, etc.; as *ε* in δοκέω, γαμέω, and certain other verbs in *εω* which are distinguished from the regular formation with *aya* by having this suffix confined to the present stem; and passing by assimilation (p. 104) into λλ (βάλλω=βαλγω), σσ or ττ (φυλάσσω=φυλακ-γω, etc., see p. 75), or ζ (ἐλπίζω=ἐλπιδ-γω); and in the verbs in *ιο* of the third conjugation in Latin (*cap-i-o*, *fug-i-o*, etc.), and (possibly) after assimilation in *pello*, *curro*, etc.

Of the origin of all these suffixes nothing more is known than that the verbal suffixes were probably for the most part ordinary or 'predicative' roots, the nominal suffixes for the most part 'pronominal' or 'demonstrative' roots.

APPENDIX TO CHAPTER V.

A. LIST OF NOMINAL SUFFIXES¹.

Nominal Suffixes are either *Primary* or *Secondary*. Primary Suffixes are those by which Nouns are formed from Roots or Verbal stems: Secondary Suffixes (also called *Denominative*) are those by which Nouns are formed from Nominal stems.

Derivative
Suffixes.

1. *ya* (Greek *-ω*, Latin *-io*): *ἀγ-ω-s*, *μοῖρα*=*μόργα*, *ῥσσα*=*ῥκγα*, *eximius*, *coniugium* (root *iug* of *iugum*), *ingenium*. As sign of feminine; *φέρουσα*=*φέροντ-γα*, *μέλαινα*=*μελανγα*.

2. *-va* (*vo*), *van*=*Fo*, *Fov*: *αἶών*=*αἶφωv*, *aeuum*: *arvum* (root *ar* of *arare*), *vacuus* (*vac* in *vac-are*).

Feut (secondary): *χαρίεις*, *χαρίFeut-os*, *χαρίεσσα*=*χαρίFeτ-γα*.
For: *εἰδώς*=*εἰδ-Fór-s*.

3. *-ma*, *-mo*, *-mon*, *-mat*, *-meno*: *τιμή*, *θυμός*, *τλήμων*, *εἶμα*=*φέσματ*, *ῥμμα*=*ῥμματ*; *forma*, *animus*, *sermo(n)*; partic. mid. *διδόμενος*, *alumnus*; infin. *ἔδ-μεναι* (Homer).

4. *-an*, *-ana*, *-na*: *τέρην* (*-ενs*), *pecten*; *ὄργανο-v*, *ικανό-s*, *ἡδονή*. Infin. *-ναι*, *-εναί*; *λελοιπέναι*, *στήναι*, *φέρειν*=*φέρειν*=*φέρειναι*; *donum*, *somnus* (*sop-nus*): part. in *-dus*, *-on-do*, *-en-do*, *-un-do*. Secondary *-wo-*, as *λίθ-wo-s*.

5. *-ta*, *-to*, *-tat*, in *adject.*, *subst.*, *part. pass.*, and *verbal adject.*: *πολίτης*, *κοῖτος*, *secta*; *κλυ-τός*, *γνω-τός*, *αμα-tus*; *νεότης* (*νεοότης*), *civitas* (*civitat-s*).

6. *-tar*, *-ter*, *-tor*, *-tra*, etc., in words expressive of relationship and *nomina agentis*: *πατήρ*, *φράτωρ*, *σωτήρ*, *ἵστωρ*, *ιατρός*, *ρήτρα*: *pater*, *victor* (or with additional suffix for fem. *vict(o)r-ic-s* *victrix*). Part. fut. stem *-turo*: and feminine *nomina actionis*; *sepultura*, *usura* (*ut-tura*).

7. *-ti*, *-si*, etc. in *nomina actionis*: *μῆ-τι-s* (root *μα*), *φά-τι-s* *φύσις*; *messis* (= *met-ti-s*), *vectis*, *potis*, *compos* (*compot-s*), *dos*

¹ Fuller particulars may be found in Schleicher, 'Compendium,' §§ 215-231 (pp. 361-462 German third edition).

(dot-s), *mens* (ment-s). Further formations; -*sia* femin. *θυ-σία*, *δοκιμασία*: Latin -*tio*, -*tia*, *initio*, *servitio*, *justitia*.

8. -*tu*, *βρωτί-ς*, *ἄστυ*; -*συνη* (-*τυνη*), secondary suffix in *μνημοσύνη*, *δικαιοσύνη*. In Latin much commoner; e.g. verbal nouns in -*tus*, whence supines in -*um* and -*u*, *dictu*, *ama-tum*, *casu* = *cad-tum*, etc.; cp. *appara-tus*, *soni-tu-s*, etc. of purely substantival use. -*tuo* (-*tva*), a further formation in *mortuus*, *statua*, etc.: -*tu-ti*, -*tudon* or -*tu-din* in *servi-tut-is*, *altitudinis*.

9. -*ant*, -*ent*, -*ont* in partic. act. of pres. fut. and aor. *ων* = *ἔσ-οντ*, *ἐούσα* = *ἔσ-οντ-γα*; *ιστάς* = *ἰσταντ-ς*; *θεῖς* = *θέιντ-ς*. So Latin -*ens* = *ent-s*: e.g. in *prae-sens*, *sens* = *es-ent-s* (*ἔσ-οντ-ς*); and the further formation in *praesentia* corresponds to Greek fem. -*ουσα* = *οντ-γα*.

10. -*es*, -*os*, -*us* in neuters, *γένος*, *genus* (genitive *γένε(σ)-ος*, *gener-is*), *ψευδής* (stem -*es* in neuter *ψευδές* and genitive *ψευδέ(σ)ος*, *ψευδοῦς*). Masculines in -*or* = *os*, *sopor*, *honor*, *labor*, (*honos*), *labos*).

11. -*ka*, -*co*, Greek *θήκη*, and (secondary) the adjectival suffix *κο*, *φυσικός*, κ.τ.λ. Latin *pau-cus*, *lo-cus*, *civi-cus*, *belli-cus*, etc.

12. -*ra*, -*la*, Greek *ἐρυθρός*, *λαμπρός*, *ἄκρο-ς*, κ.τ.λ.; *δειλό-ς* (root *δι* in *δέ-δι-μεν*, *δέ-δοι-κα*), *σιγηλό-ς*; *φν-λή*, *ὀμίχ-λη*. -*ερο-* is a secondary variety of this suffix, *φοβερός*, *δροσερός*: but the *ε* is perhaps only the *ο* of stem *φοβο-*, *δροσο-*. The element -*ρο* or -*λο* seems to enter into other suffixes, -*υρο*, -*ωρη*, -*ωλο*, -*ωλη*, -*ιλο*. Latin *rub-ro-*, *gna-ro-*, *ple-ro-*, etc. *Sella* = *sed-la* (= *ἔδ-ρα*), *cande-la*, *loque-la*, *ala*, *velum*, etc. The element -*la* also appears in other suffixes, -*ulo-*, -*ula-*, -*ili-*, etc.

B. DERIVATIVE VERBS IN GREEK AND LATIN, FORMED BY ADDITION OF THE SUFFIX -*aya*, or *ya*.

1. -*āv*: -*ā* = -*άω* = -*άω* } = *άγω* = *ayā-mi*;
-*āre*: -*ā* = -*αο*

e.g. Sanskrit *damáyāmi*, Greek *δαμάω*, Latin *domo* (*domao*), Gothic *tamja*, German *zähme*.

Many derivatives in -*āv*, -*āre* are connected with fem. substantive stems in -*ā*; e.g. *κομάω*, *κομῶ*, Lat. *como*, with *κόμη*,

comā, κομά-*yō*, *comā-yō*. Others with -ō stems (originally -a); e.g. ἀντιᾶν (*antio-s*), *armāre* (*armo-*) *firmare* (*firmo-*).

2. $\begin{matrix} -\epsilon\iota\nu : -\acute{\omega} = -\acute{\epsilon}\omega \\ -\epsilon\tau\epsilon : -\epsilon\omicron \end{matrix} \} = \acute{\epsilon}y\omega = ayāmi;$

e.g. ἀρκέω, Lat. *arceo* (*arkáyāmi*).

3. $\begin{matrix} -\omicron\upsilon\nu, -\acute{\omega} = \acute{\omicron}y\omega = ayāmi. \end{matrix}$

4. $\begin{matrix} -\acute{\iota}\epsilon\iota\nu, -\acute{\iota}\omega \text{ (or } \acute{\iota}\xi\omega) \\ -\acute{\iota}\tau\epsilon, -\acute{\iota}\omicron \end{matrix} \} = \acute{\iota}y\omega = ayāmi.$

5. $\begin{matrix} -\acute{\upsilon}\epsilon\iota\nu, -\acute{\upsilon}\omega \\ -\upsilon\epsilon\tau\epsilon, -\upsilon\omicron \end{matrix} \} = \acute{\upsilon}y\omega = uyōmi.$

So in Sanskrit *gātu-yāmi* (*gātú*), Greek γηρύω (= *garuyōmi*), stem γηρυ-.

6. $\begin{matrix} -\acute{\alpha}\zeta\epsilon\iota\nu \\ -\acute{\epsilon}\zeta\epsilon\iota\nu \\ -\acute{\alpha}\xi\epsilon\iota\nu \\ -\acute{\iota}\xi\epsilon\iota\nu \end{matrix} \} \begin{matrix} \text{In these the } \zeta \text{ arises from the effect of the } j \text{ (} y \text{)} \\ \text{sound upon a preceding consonant, guttural or} \\ \text{dental; e.g. } \acute{\alpha}\rho\pi\acute{\alpha}\zeta\epsilon\iota\nu = \acute{\alpha}\rho\pi\acute{\alpha}\gamma-y\epsilon\iota\nu \text{ (} \acute{\alpha}\rho\pi\alpha\gamma-\acute{\eta} \text{), } \theta\alpha\upsilon\mu\acute{\alpha}\zeta\epsilon\iota\nu \\ = \theta\alpha\upsilon\mu\acute{\alpha}\delta-y\epsilon\iota\nu \text{ (} \theta\alpha\upsilon\mu\alpha- \text{), } \pi\acute{\iota}\acute{\epsilon}\zeta\epsilon\iota\nu = \pi\acute{\iota}\acute{\epsilon}\sigma-y\epsilon\iota\nu \text{ (} \pi\epsilon\pi\acute{\iota}\epsilon\sigma- \\ \mu\alpha\iota, \acute{\epsilon}\pi\acute{\iota}\epsilon\sigma-\theta\eta\nu \text{), } \omicron\acute{\iota}\mu\acute{\omega}\zeta\epsilon\iota\nu = \omicron\acute{\iota}\mu\acute{\omega}\gamma-y\epsilon\iota\nu \text{ (} \omicron\acute{\iota}\mu\omega\gamma-\acute{\eta} \text{), } \acute{\epsilon}\lambda\pi\acute{\iota}\zeta\epsilon\iota\nu \\ = \acute{\epsilon}\lambda\pi\acute{\iota}\delta-y\epsilon\iota\nu, \chi\alpha\rho\acute{\iota}\zeta\epsilon\sigma\theta\alpha\iota \text{ (} \chi\acute{\alpha}\rho\iota\tau-\omicron\varsigma \text{), } \delta\omicron\lambda\omicron\lambda\acute{\upsilon}\zeta\epsilon\iota\nu \text{ (} \delta\omicron\lambda\omicron\lambda\upsilon\gamma-\acute{\eta} \text{).} \end{matrix}$

7. -σσειν: σσ=κ γ , $\gamma\gamma$, $\chi\gamma$, $\tau\gamma$, $\theta\gamma$: e.g. θωρήσσειν (stem θωρηκ-), ἀλλάσσειν (ἀλλαγ- $\acute{\eta}$), ὀρύσσειν (ὀρυχ- $\acute{\eta}$), κορύσσειν (κορυθ-), ἐρίσσειν (ἐρέτ-ης, ἐρετ-μός). See pp. 74-76.

8. $\begin{matrix} -\acute{\alpha}\acute{\iota}\rho\epsilon\iota\nu = \acute{\alpha}\rho-y\epsilon\iota\nu \\ -\acute{\epsilon}\acute{\iota}\rho\epsilon\iota\nu = \acute{\epsilon}\rho-y\epsilon\iota\nu \\ -\acute{\upsilon}\rho\epsilon\iota\nu = \acute{\upsilon}\rho-y\epsilon\iota\nu \end{matrix} \} \begin{matrix} \text{The } y \text{ sound being thrown back into the} \\ \text{stem syllable and becoming the vowel sound} \\ \text{of } i \text{ (cp. } \mu\acute{\epsilon}\lambda\alpha\iota\nu\alpha = \mu\acute{\epsilon}\lambda\alpha\nu-\gamma\alpha, \text{ p. 102).} \end{matrix}$

9. $\begin{matrix} -\acute{\alpha}\lambda\lambda\epsilon\iota\nu \\ -\acute{\epsilon}\lambda\lambda\epsilon\iota\nu \\ -\delta\lambda\lambda\epsilon\iota\nu \\ -\acute{\upsilon}\lambda\lambda\epsilon\iota\nu \end{matrix} \} \begin{matrix} \text{Probably from } \lambda y : \text{ but as no noun-stems end in} \\ \lambda \text{ (} \acute{\alpha}\lambda-\varsigma \text{ excepted), these are derivatives from stems} \\ \text{in } -\lambda\omicron, \text{ the stem-vowel } \omicron \text{ being lost.} \end{matrix}$

10. $\begin{matrix} -\acute{\alpha}\acute{\iota}\nu\epsilon\iota\nu \\ -\acute{\epsilon}\acute{\iota}\nu\epsilon\iota\nu \\ -\acute{\iota}\acute{\nu}\epsilon\iota\nu \\ -\acute{\upsilon}\acute{\nu}\epsilon\iota\nu \end{matrix} \} \begin{matrix} y \text{ sound thrown back as vowel into the stem} \\ \text{syllable, as } -\acute{\alpha}\acute{\iota}\rho\epsilon\iota\nu, \text{ etc., above.} \end{matrix}$

[A large number of examples under each of the above heads may be found in Leo Meyer's 'Vergleichende Grammatik,' vol. ii. pp. 1-78.]

CHAPTER VI.

NOUN INFLECTION.

To the stem of an Indo-European noun are added (1) the inflections of case; (2) in the plural, the sign of number. The dual is perhaps an earlier expression for multiplicity¹ (more than one), a survival from a primitive epoch, which in Latin and in most modern languages has fallen out of use altogether; and where retained, as in Greek and Sanskrit, has a tendency to disappear as a useless exuberance of expression. In Hellenistic and Modern Greek it does not exist.

The cases were originally eight: viz. Nominative, Accusative, Locative, Dative, Ablative, Genitive, Instrumental; and outside of these, the Vocative, which is no *case* properly so called, but the uninflected noun-stem used as an interjection². Sanskrit alone, however, retains the full number of independent case forms, and that only in the singular number: for in the plural the vocative disappears (the nominative being used, as in Greek or Latin), the dative and ablative unite, and the instrumental has only one form (as against two in singular); while the dual has only three distinct forms, one for nom. and acc., one for instr. dat. and abl., and one for gen. and loc. In the singular too gen. and abl., loc. and dat., are nearly related in form.

¹ 'All over the world reduplication seems to have been the earliest contrivance for denoting something beyond the singular, and to this day in Bushman, as in many savage jargons, it serves for a plural' (Sayce, *Introd.* vol. i. p. 411). The doubling of an object appears in such cases to be the furthest point of multiplicity to which the mind can reach. I have observed in a child learning to speak, that for some time he applied the expression 'Two men,' to any number larger than one.

² See however below, p. 117.

Merging of
separate
Case-forms.

In the kindred languages, the loss of distinct case-forms—or, to speak more correctly, the merging of two or more originally distinct case-forms into one—must have begun early in their linguistic growth. The oldest accessible remains of the Greek language show us the ablative merged in the genitive; though Latin, on the other hand, has retained the distinction of form. The dative and locative, again, have become one in Greek, and to a certain extent in Latin: while the instrumental has vanished from both. In both languages, however, we shall find remnants of both locative and instrumental *forms*, and Greek has at least one conspicuous remnant of its lost ablative case in the common adverbial termination *-ως*. The confusion in practice of the clear grammatical distinctions between different cases naturally led to intermixture and confusion of forms; so that no formula will represent all the correspondences between the case terminations of the three languages in question; but a general idea may be given thus:—

| <i>Sanskrit.</i> | | <i>Greek.</i> | | <i>Latin.</i> |
|------------------|---|---------------|---|---------------|
| Nom. | | Nom. | | Nom. |
| Acc. | | Acc. | | Acc. |
| Dat. | | Dat. | | Dat. |
| Instr. | } | „ | } | Abl. |
| Loc. | | „ | | |
| Abl. | } | Gen. | } | Gen. |
| Gen. | | „ | | |
| Voc. | | Voc. | | Voc. |

Gender.

Gender.

The distinctions of *gender*, originating doubtless in the desire to give different names for creatures in which there is conspicuous difference of sex, has been in most Indo-European languages artificially extended far beyond the limits of natural sex. 'The world of untraceably sexual or of unsexual objects is not relegated to the indifferent "neuter;" great classes of names are masculine or feminine partly by poetical analogy, by an imaginary estimate of their distinctive qualities as like those of one or the other sex in the higher animals, especially man; partly by grammatical analogy, by resemblance in forma-

tion to words of gender already established. At any rate, in the common Indo-European period all or nearly all attributive words were inflected in three somewhat varying modes, to indicate generic distinctions; and the names of things followed one or other of these modes, and were masculine, or feminine, or neuter¹. Yet, widespread as is their employment of generic distinction, the Indo-European languages have no special phonetic element for its expression; but, as occasion arose, various secondary means were employed. This seems to show that the universal distinction of gender which we find in Greek and Latin is neither original nor necessary, but a subsequent development of language.

Gender not expressed directly by phonetic elements.

Modes of generic distinction:—

1. In Consonant-Stems and stems in *-i-*, *-u-*, or a diphthong (*πατήρ, μήτηρ, facilis, manus, ναῦς*), the only distinction of gender is by external means, i. e. by the gender of some other word in grammatical agreement (*ὁ πατήρ, ἡ μήτηρ, saeva manus*, etc.). With *ā* stems (including *a-* *o-* stems) the raising of the vowel to *ā* (Greek *η*, Latin originally *-ā* of fem. sing.) generally denotes feminine gender. Occasionally however *ā* is masc. (*πολίτης, advenā*, the original quantity), and *ǣ* (*ῥ, ǣ*) is fem. (*ῥόδος, mālus, humus*, etc.): so that this means of generic distinction is not of invariably certain application.

2. Certain case-suffixes are appropriated to a particular gender; or a case is not employed in a particular gender, but its place is supplied by some other form. Thus in nom. sing. the neuter has no final *-s*, either the accusative (*novum, δεινόν*) or the mere uninflected stem (*ἀληθής, εὔρύ, facile, facili*) being used.

3. Originally identical forms are distinguished, and the distinction adopted as a mark of gender: e. g. with the breaking up of the *a* sound into *a* *o*, *novo-d*, *nova-d*.

4. Certain stem forms are appropriated to certain genders, especially feminines, in *-ya*, *-is*, *-ic*, etc.; *φέρουσα=φέρουγα*, *δότευρα=δότεργα*, *αὐλητρὶς, victrix=vict(o)r-ic-s*, etc.

[The distinction of gender is retained in the Teutonic languages, e. g. modern German, and the Romance derivatives

Gender in modern languages.

¹ Ferrar's 'Comparative Grammar,' p. 200.

Gender in
modern lan-
guages.

from Latin. English has abandoned the artificial part of the system, retaining a difference in *form* only where sex is really an important distinction (e. g. *man*, *woman*; *bull*, *cow*; and the suffix *-ess* in *Princess*, *lioness*, etc.), but it retains its fundamental distinction in the pronouns *he*, *she*, *it*, or *who* and *what*. Other languages (e. g. modern Persian) have lost even that generic distinction: and in most of the agglutinative and isolating languages grammatical gender is said never to have existed at all¹. There is of course in the necessity of things no reason for choosing one particular accident of a conception rather than another as a subject for grammatical distinctions; but, as a matter of fact, there is always a strong natural personifying tendency at work in men's minds, leading them to invest even inanimate things with the idea of sex. Thus a ship to a sailor, a railway train to a porter, is always '*she*;' and uneducated people often use the pronoun '*he*' where ordinary usage prescribes '*it*.' These are examples of the *natural* tendency to extend distinctions of gender taking effect in a language which has generally repudiated such extension to all objects as unnecessary: and it is to the unrestrained working of such natural tendencies that we may ascribe the great development of generic distinction at an early period in the Indo-European languages, before, in fact, they had as yet branched off from the primitive stock.]

Declension.

Principles of
division into
Vowel and
Consonant
Declension.

Nouns are divided into two main classes or 'declensions' according to the final letter of the stem: viz. :—

I. *Vowel-Declension* (or A declension), including stems which end in *-a*, *-e*, *-o* (the three varieties of *a* the original vowel); and thus comprising the 1st (*musa-*), 2nd (*domino-*), and 5th (*facie-*) 'declensions' of Latin Grammar; and the 1st (*πολιτα-μουνσα-*) and 2nd (*ταυρο-*) of Greek Grammar.

II. *Consonant-Declension*, including stems which end in a consonant, or the semi-vowels *-i*, *-u*, or diphthongs *av*, *ev*, *ov*: thus comprising the 3rd and 4th 'declensions' in Latin (*judic-is*,

¹ Sayce, 'Introd.' i. p. 404.

navi-s, gradu-s), and the corresponding nouns in Greek (*φύλακος, πόλι-s, βότρυ-s, βασιλεύ-s, ναῦ-s, βοῦ-s*). A small number of nouns with stems in *o-* or *ω-* follow the inflections of this declension, e. g. *πειθῶ, πειθό-os*: *ἥρω-s, ἥρω-os*. The stem of words in this declension is best recognised in Greek in gen. sing., where all that remains after deducting the termination *-os* is the stem, e. g. *λέων, λέοντ-os*; *ὄνομα, ὀνόματ-os*. This is sometimes (but by no means always) the case in Latin, e. g. *comes, comit-is*; *judex, judic-is*. The final consonant will of course generally be shown in this way, but the weakness of Latin vowel sounds (p. 56) often obscures the true vowel of the stem; thus in *auspex, auspic-is*, the nom. *auspec-s* gives the true form (*spec-*). Often neither retains it, e. g. *remex, remig-is*, the true form being *ag-*; *auceps, aucupis* (true form *cap-*). Such varieties however fall under the head of Latin Sound-Lore.

There are certain differences between the inflections of the two classes thus arranged, which make it more convenient to classify *i, u*, and diphthongal stems under the consonantal than under the vowel declension. Thus, in Greek:—

Differences
of Inflection
between the
two declen-
sions.

(a) In gen. sing. consonant declension has always *-os* (*-ω-s*).

(b) In nom. plur. " " " *-es*.

In Latin:—

(a) Gen. sing. and nom. plur. end in a long vowel or diphthong in the vowel declension; in *-s* in the consonant declension.

(b) Gen. plur. of vowel declension *-um*; consonant declension *-um*.

(c) Dat., abl. plur. of vowel declension *-is*; consonant declension *-bus*.

[In older Latin however some of these differences apparently did not exist: for we find in nouns of the vowel declension *-aes, -as, -es* as gen. sing. of *a* stems (see below, on Gen. Sing.), and *-um* as term. of gen. plur. in both *a* and *o* stems; while certain words show *-bus* in dat. and abl. plur. Archaic Latin thus furnishes materials for approaching nearer to a uniform system of inflection for all stems than do the earliest traceable stages of the Greek language¹. In Sanskrit there is but one general

¹ See Roby's 'Latin Grammar,' vol. i. Book II. ch. xii.

scheme of terminations, the classes of declension (eight in number) signifying the different modes of combining the final letter of the stem or base with the termination: a system which might, no doubt, have been carried out by Latin and Greek grammarians, had there been an equally careful grammatical analysis at an equally early stage in the history of those languages, and had the formation of nouns and verbs from roots and 'crude bases' or stems been traceable with the same clearness as in Sanskrit.]

Nominative Singular :—

Nom. Sing.,
Greek and
Latin.

Formed in all nouns by suffixing *-s* to the stem. This *-s* is generally regarded as representing a pronominal root *-sa* (demonstrative pronoun); *sa*=Greek δ (cp. p. 66); *sā* (fem.)= η . In Greek and Latin the *-s* of nom. sing. is retained in many words, which therefore need no further explanation (e. g. *Aeneas*, $\kappa\rho\iota\tau\eta\varsigma$; *dominus*, $\theta\epsilon\acute{o}\varsigma$; *urbis*, $\pi\acute{o}\lambda\iota\varsigma$, *gradus*, *facies*, $\beta\alpha\sigma\iota\lambda\epsilon\acute{\upsilon}\varsigma$). From others it has disappeared, but its presence can sometimes be traced: e. g. Latin masc. vowel stems in *-a* have lost it, but such double forms of masculine words as $\iota\pi\pi\acute{o}\tau\eta\varsigma$ and $\iota\pi\pi\acute{o}\tau\alpha$ (Hom.), $\alpha\iota\chi\mu\eta\tau\eta\varsigma$ and $\alpha\iota\chi\mu\eta\tau\acute{\alpha}$, perhaps point to its having once existed. More to the purpose, as evidence, are the archaic Latin forms *paricidas*, *hosticapas*, and *poeta*, *Apella*, beside $\pi\omicron\iota\eta\tau\eta\varsigma$, $\text{'}\text{Α}\pi\acute{\epsilon}\lambda\lambda\eta\varsigma$. Bopp (§ 136), Schleicher (§ 246), and others, assume its loss from feminine stems in *a-*, as *bona*, $\acute{\alpha}\gamma\alpha\theta\acute{\alpha}$, $\sigma\iota\nu\acute{\alpha}$: but there is no satisfactory evidence that such stems ever took the *-s* of nom. sing. Benfey ('Orient and Occident,' i. p. 298) maintains that they did not.

In vowel
stems.

In Greek
Cons. stems.

Consonant Stems (Greek).

Guttural and *Labial* stems: *-s* with the stem vowel becomes ξ or ψ . $\phi\acute{\upsilon}\lambda\alpha\xi$ (stem $\phi\upsilon\lambda\alpha\kappa$ -), $\phi\lambda\acute{o}\xi$ ($\phi\lambda\omicron\gamma$ -), $\delta\psi$ ($\delta\psi$ -).

Dental Stems: τ and δ never remain before *s*, but disappear, the preceding vowel being often lengthened in compensation, e. g. $\lambda\alpha\mu\pi\acute{\alpha}\varsigma$ ($\lambda\acute{\alpha}\mu\pi\alpha\delta$ -*s*), $\chi\acute{\alpha}\rho\iota\varsigma$ ($\chi\acute{\alpha}\rho\iota\tau$ -*s*), $\tau\epsilon\tau\upsilon\phi\acute{o}\varsigma$ ($\tau\epsilon\tau\upsilon\phi\omicron\tau$ -*s*). In $\delta\acute{\alpha}\mu\alpha\varsigma$ ($\delta\acute{\alpha}\mu\alpha\tau$ -), both τ and *s* disappear. Stems in *-ντ* sometimes lose both consonants before *s* ($\tau\acute{\upsilon}\psi\acute{\alpha}\varsigma$ = $\tau\acute{\upsilon}\psi\alpha\tau$ -*s*, $\delta\omicron\upsilon\varsigma$ = $\delta\omicron\upsilon\tau$ -*s*), sometimes lose τ and *s* retaining ν ($\phi\acute{\epsilon}\rho\omega\varsigma$ = $\phi\acute{\epsilon}\rho\omicron\upsilon\tau$ -*s*).

Nom. Sing.

In *-ν* stems sometimes the ν , sometimes the *-s* is lost; the

vowel being in each case lengthened, e. g. *τάλας* (stem *ταλαν-*), Nom. Sing. *φρήν* (*φρεν-*), *χθών* (*χθον-*): and sometimes both forms are found, e. g. *θίς*, *θίν*; *δελφίς*, *δελφίν* (that in *-s* being the older).

After *-ρ* stems, *s* is lost, *πατήρ* (*πατερ-s*): but Aeolic keeps both consonants,—*χέρς* (= *χείρ*), *μάκαρς*. In *μάρτυς* (*μάρτυρ-s*) the *ρ* disappears. The solitary *-λ* stem (*ἄλς*) retains both *λ* and *s*.

In *-s* stems the second *-s* denoting nom. sing. is lost and the vowel lengthened, e. g. *ἀληθής*, stem *ἀληθές*.

Consonant Stems (Latin):—

In Latin
Cons. stems.

Guttural and *Labial* stems: *s* is added to the stem, e. g. *vox* (*voc-*), *lex* (*leg-*), *auceps*, *urbs*.

Dental stems: *t* and *d* disappear before *-s* and the preceding vowel was originally lengthened in compensation; but in Classical Latin the tendency to shorten final syllables has again shortened the vowel, except in monosyllables and after *i*-preceding. Thus *pēs* (*pēd-is*), *ariēs* (*ariēt-is*): but *mīlēs* (*mīlīt-is*), *equēs* (*equīt-is*), etc. Stems in *-nt* only reject *t* (*amans*, *amant-is*), Latin being more tolerant than Greek of combinations of final consonants; but in old Latin and in the common dialect we find *infās*, *sapies*, etc. (cp. the parallel forms *quoties*, *quotiens*).

In *-s* stems *-s* of nom. sing. is lost, and the preceding vowel originally lengthened, but in Classical Latin generally short. We find however *Cerēs* (*Cerēs-is*), *arbōs* (*arbōr-is*). In the declension of such stems the final *-s* became *r* in oblique cases (except *vas*), and this *r* often supplanted final *-s* of nom., e. g. *arbōs*, *arbōr*; *honor*, *honor*; *vomer*, *vomer*; *robur* cp. with *vetus* (the *-s* being in all cases the older form). Stems in *-n* if masc. or fem. lose *-ns*, as *homo* (*homon-s*); but in some words *n* is retained (*pecten*, *flamen*), and in *sanguis* (originally *sanguis*, Lucr. iv. 1050) = *sanguin-s*, *-s* is retained and *n* lost. After *-r* and *-l* stems *-s* is always lost, but the preceding vowel was originally lengthened as in Greek: *σῆλ* (*σῆλ-is*), *πᾶρ* (*πᾶρ-is*), *actōr* (*actōr-is*).

In *-i* and *-u* stems *s* is generally kept (*igni-s*, *gradu-s*): but where *r* or *l* after another consonant precedes *i*, the full termina-

tion *-is* is lost, and *e* inserted before *r*; e. g. *acer*=*acri-s*, which remains as fem. nom.; *vigil*=*vigilis*.

Sanskrit
Nom. sing.

[In Sanskrit nom. sing. *-s* is omitted after consonantal stems, the vowel being sometimes lengthened in compensation, sometimes not. Thus *vāk* is nom. sing. from stem *vāc-*, Latin *vox*=*voc-s*, and *durmanās* (δυσμενής) nom. sing. of stem *durmanas* (δυσμενές); but *bhāran* (φέρων) is nom. sing. of stem *bharant-* (φεροντ-). Stems in *ār* (masc.) and *ār* (fem.) reject both *r* and *s*, thus *pitā* (stem *pitar*)=πατήρ, *dātā* (stem *dātar*)=δοτήρ. It will be observed that in all these words the Greek forms of nom. sing. are fuller than the corresponding Sanskrit.]

Nominative Plural :—

Nom. Plur. : Originally a reduplication of the sign for nom. sing., *-sasa*; then *-sas* (which is actually found in Vedic Sanskrit as nom. plur. termination in *a-* stems, e. g. *āṇva-sas* from *-āṇva-s*); and finally *-as* (Greek *-es* of consonant declension), which is the form in most Indo-European languages, and survives in one of the few remaining English inflections, the *-s* of plural signification.

In Greek;

In Greek *-es* (= *-as*) is added to consonant stems, as *ποιμέν-es*, *ιχθύ-es*, *μάντι-es*. Sometimes the vowel of *-i* and *-u* stems is raised; e. g. *πόλεις*, *πόλῃες*, *πόλεες*=*πόλεϋ-es* from *πολει-*, the altered form of stem *πολι-* (whence also the Ionic *πόλι-es* without raising the vowel); and *πολεῖς*=*πολέϊ-es* from *πολεϋ*, the altered form of stem *πολυ-*: cp. *ταχέες*, *ἐγγέλεις*. In these the *υ* of stem has been raised to *ευ*, and the *υ* of this diphthong then changed to *ϝ*, which of course disappears altogether (above, pp. 43, 68).

The nom. plur. of vowel stems *-oi*, *-ai*, shows no trace of final *-s*, though on the analogy of Latin (see below) we should infer that it once existed. It has been suggested (Schleicher, Comp. § 247) that the loss of *-s* began with nom. plur. of pronominal stem *ta-* (το-): i. e. *τοί*, *ταί*; this stem *ta-* according to the theory being increased by the suffix *ya*, a common derivative suffix (see above, p. 102), would form in nom. plur. *tāy-as*, which by loss of final syllable would become *tāi* (τοί or ταί): and that this termination *-oi* *-ai* was gradually applied by analogy to all *a-* and *o-* stems. This is ingenious; but it rests

upon an assumption for which there is no evidence one way or the other; and in philological enquiries it is better to confine ourselves to the *facts* of language, and to be content with unsolved problems rather than risk hypotheses.

Latin Nom. Plural:—

In Latin.

Consonantal stems; always in *-ēs*, the quantity of which is supposed to be due to analogy from the *i*-stems. It is probable, however, that the original termination was *-ēs* (corresponding to Skt. *as*, Gk. *es*), which e.g. in *quattuor* has dropped off altogether (cp. *τέτταρ-ες*): so in Umbrian *frater*=*frat(e)r-es*, Oscan *censtur*=*cens(t)or-es*. Nom. plur. of *i*-stems always in *-ēs*: here *ēs* was probably added to stem, thus giving *-ies*, which became *ēs*, *īs* or *eis* (all found on inscriptions and in MSS.). [Another explanation is that the stem *i*- was raised to *ey* (as *πόλεις*=*πόλειγ-ες* above) so that *ovēs*=*ovēs*=*ovey-es*.]

u-stems in *-ūs*=*u-ēs* (cp. *νέκυ-ες*).

a-stems; nom. plur. *ae* or in archaic Latin *-ai*; but it is inferred from a comparison of the other Italian dialects that the original form was *-as* (= *a-es*) e.g. Umbrian *urtas*, *totas* (= Latin *ortae*, *totae*; Oscan *aasas*, *scritas* (= *arae*, *scriptae*). *Matrona* (nom. plur.) found on an inscription is supposed to point to this older form in *-as* with *-s* dropped; but it might equally be an error for *matronai*, and in inscriptions a wide margin must always be allowed for merely casual errors of the cutter¹. If *-as* is the original form, how do we get *ai*, *ae*? The most plausible theory is that the *i* here represents an increase of the stem by *i*, such as will hereafter be shown in the pronominal declension (*ha-i-c*, *haec*, etc. see below, chap. vii). Thus *equae*=*equai*=*equa-i-s* (*s* being dropped, as often in Latin). Or it may be supposed that the *-i*- was added, upon analogy of the pronominal declension, after the loss of final *s*.

In the *o*-declension we get indications that *o-es* (*-ēs* added to the stem *o*-) was the earliest form. The various forms

¹ Ritschl wishes to restore the form in *-as* in Plaut. Trin. II. iv. 138 (to avoid hiatus):—

‘Nam fulguritae sunt alternas arbores.’

Nom. Plur., actually found, which lead to this inference, may be thus arranged¹:—

a. Oldest Forms: 1. *Fesceninoe, pilumnoe, poploe*, (Carm. Sal.); stem retained in full, and therefore probably the oldest, -s only having dropped.

2. *plourumē* (Epit. L. Scipio, see Appendix I. i. 2) a contraction from *oe*, but connected with the later forms in *ei*, *i*.

b. Forms retaining -s (-es, -eis, -is) e. g. *modies, quēs* (S. C. de Bacch. see Appendix I. ii.), *eis, libereis, magistris, hisce* (in Ter. Eun. ii. 2. 38). These forms do not appear in inscriptions earlier than 190 B. C., and remain for about a century. To explain the presence in these later forms of the final -s, which the earlier forms had lost, Corssen supposes a transition (by analogy) to the forms of the *consonant* (i-) declension: but it seems at least as natural to suppose that in the early inscriptions we see the result of a tendency to drop final consonants, which was artificially corrected during the second century B. C. (when we know that the *literati* of Rome took great pains to establish a correct standard for their language), but finally prevailed; pronunciation, as usual, obtaining the victory over etymological considerations in fixing orthography.

c. The classical form in -i.

We therefore may trace the stages of change in these forms thus:—

a- stems ; a-es, ās, a-i(s), ae.

o- stems ; o-es, ē(s), e, i.

eis,

is.

[In Sanskrit, all masc. and fem. stems form nom. plur. in -as before which *ṛ* and *ṝ* are raised; *vāc-ās* (*vocēs*), *bhārant-as* (*φῑρποντ-ες*), *sivās* (*siva + as*), *āvay-as* (from *avi-s*).]

Nom. Dual,
Greek and
Sanskrit.

Nominative Dual (Greek):—

Schleicher assumes for this an original -*sās*, a lengthened form of nom. plur. (as *ī* nom. dual neuter, of *ṛ* nom. plur. neuter; and *bhyām* dat. abl. instr. dual). This -*sās* would

¹ See Wordsworth's 'Fragments,' etc.; Introd. ix. 9.

next become *-ās*; but in all Indo-European languages it has been further weakened: in Sanskrit to *āu* (in feminine *ā-* stems to *ē*); in Greek to *ε*, which appears in the consonant declension, but in the vowel declension coalesces with the stem vowel, *ἱππῶ* = *ἱππῶ-ε*, *χώρᾱ* = *χώρᾱ-ε*.

In Latin *duo* (Sanskrit *dvāu*) and *ambo* (Sanskrit *ubhāu*, Greek *ἄμφω*) are the only dual forms.

Accusative Singular:—

Accus. Sing.:
In Greek:

General type; *-am* for consonant, *-m* for vowel-stems.

In Greek, *-m* becomes *-ν* by the euphonic laws of the language: and with consonantal stems *-am* appears only as *-a* added to the stem, *λαμπάδ-α*, *ἦρω-α*. Vowel stems retain *-ν* (*ἱππο-ν*, *φυγῆ-ν*). Stems in *ι-*, *υ-* and diphthongs *αυ-*, *ου-* generally form the accus. sing. on analogy of vowel-stems in *-ν*; *πόλι-ν*, *βότρυ-ν*, *βοῦ-ν*, *ναῦ-ν*. Stems in *ευ-* however are generally treated as consonant stems (*υ* becoming *ϝ*), thus *βασιλέ-α* = *βασιλέϝ-α* (*βασιλευ-*): and the same is not unfrequently the case with other diphthongal and *ι-* and *υ-* stems. Thus we have the Homeric *νῆ-α* (*νῆϝα*) beside *ναῦ-ν*; *εὔρε-α* = *εὔρεϝ-α* (*υ-* of stem raised to *ευ-*, *εϝ-*) beside *εὔρύ-ν*, and *ὀφρύ-α*: and in the other case-endings of *βοῦς*, *βοῦ* is treated as a consonant stem (*βοϝ*), *βο-ός* = *βοϝ-ός* (Latin *bov-is*). So too *πόλη-α* = *πόλεϝ-α* (*πόλι-ς*) beside *πολι-ν*.

The *neuter* accus. in consonantal stems is merely the stem subject to euphonic laws of the Greek language: e.g. *τέρας* (*τερατ-*), *μέλι* (*μελιτ-*), *φέρον* (*φεροντ-*), *γλυκυ-*: in vowel stems it ends in *-ν*.

In Latin, *-m* is the invariable ending with masc. and fem. In Latin, stems. The *-em* of consonantal declension is said not to represent I. E. *-am*, but *i-m*: i. e. the stem lengthened by *-i*, which then became *-e* before *m*, in both stems thus lengthened and original *i-* stems, with a few exceptions among the latter¹. It is no doubt desirable to regard these few accusative forms in *-im* among the mass of forms in *-em* as survivals of a more

¹ The following nouns form accus. in *-im*, and ablat. in *-i*:—

Always—buris, tussis, sitis, vis, Tiberis, etc.

Generally—febris, pelvis, pulvis, restis, securis, turris.

Occasionally—clavis, navis, sementis.

Accus. Sing., primitive form. It might, however, be maintained that *-em* as seen in *pedit-em*, *equit-em* at first represented *-ām* (*e* being a regular variety of original *a*): and that this *-em* coalesced with the final vowel of *i-* stems into *-īm* or *-ēm* (*i-em*), *-im* being the earlier form; and that finally the analogy of this *-īm* or *-ēm* caused the *-em* of purely consonantal stems to be regarded as a long syllable, upon the erroneous inference that *-ēm* was exactly the same in all words which exhibited it. This view is not less consistent with the observed facts of languages, and obviates the difficulty which cannot but be felt in the theory of a different structure for one of three words so obviously parallel as Sanskrit *vāc-am*, Old Bactrian *vāc-em*, Latin *voc-em*. This Old Bactrian accus. in *-em* of consonantal stems seems to furnish a clear link between Sanskrit *-am* and Latin *-em*, e. g. *barent-em*, cp. with Sanskrit *bhārant-am*, Latin *ferent-em*. Moreover, Latin *-em* regularly answers to Greek *-ā*, as *ἑπτά septem*, *δέκα decem*, *ἐννέα novem*: compare *κρίμα crīmen*, etc., also *ἑκατόν centum*.

To the vowel stems in *-a* (*-o*) *-m* was added; *bonum* (*bono-m*), *musa-m*. *-m* as we have seen (chap. iv. p. 73) was weakly sounded in pronunciation, and is accordingly omitted on some old inscriptions.

Accusative Plural :—

Accus. Plur.: General type, *-ns*, i. e. addition of *s* to termination of accus. sing. *m*, which by assimilation to the dental sibilant *s* becomes *n*. This *-ns* is retained only by Gothic, the euphonic laws of which did not forbid such a combination at the end of a word, e. g. *gastins* (stem *gasti-*), *sununs* (*sunu-*): but there are traces of it in both Greek and Latin, and also in Sanskrit and Zend.

In Greek: *Greek Accus. Plur.*: formed by addition of *s* to acc. sing., but *-vs* only retained in the Argive and Cretan dialects, e. g. *τόνς*, = *τούς*, *πριγευτάνς* = *πρεσβευτάς*. Elsewhere, in the vowel declension, *v* disappears, the vowel being usually raised in compensation, e. g. *ἵππου-ς*, *ἵππους* (Doric *ἵππως*, like Latin *-ōs*); *χώρανς*, *χώρας*. In Lesbian *-ονς* and *-ανς* became *-οις*, *-αις*: thus *καλαίς* = *καλάς*, as in Pindar we have *φιλήσαις* = *φιλησανς* = *φιλησωντ-ς*, Attic *φιλήσας*. In consonant stems *-s* follows *-a* of acc. sing.

making *-as*: but in *ι-* and *υ-* stems there is variety of form; *Accus. Plur.* thus beside *πόλι-as* and *πόλη-as* we have *πολῖs=πόλι-υ-s*. *πόλεις*, the ordinary accusative, is perhaps best taken as *=πόλει-υ-as* (see above on *nom. plur.*, p. 105): but it might also represent *πολι-υ-s*, and be *=πολῖs*. With neuters, *a* is added to the stem.

Latin Accus. Plur. of masc. and fem. stems always in *-s*, *In Latin.* with long vowel preceding by compensation for the loss of *-m*; thus *-ās=-am-s*, *-ōs=-om-s*; *ēs (īs)=ems (ims)*, *-ūs=-um-s*. To neuter stems *-a* is added, *corpora=corpos-a*.

[In Sanskrit, traces of the termination *-ns* are found: but in vowel-stems usually either *n* or *s* disappears and the vowel is raised, e.g. *अङ्वा-s (equus)*, *acc. plur. अङ्वां*; *अङ्वा (equa)*, *acc. plur. अङ्वाः*. So *अवि-n (masc.)*, *अविः (fem.)* from stem *avi-*. To masc. and fem. consonant stems, and monosyllabic vowel stems, *-as* is added, *वृक्ष-as*, *अश्मन-as*, *नौव-as (nau-)*.]

The *Accusative Dual* in Greek (as also in Sanskrit *masc. Accus. Dual.* and *fem.*) is the same as *nom. dual*. In Latin *duo*, *ambo* have also a form *duos*, *ambos*, on analogy of plural, and in *fem.* only this form (*duas*, *ambas*).

Vocative Singular :—

This, it has been already said (p. 105), seems to be in Indo- *Voc. Sing.* European languages no 'case,' but the mere stem used as an interjection.

It has however been suggested, with some probability, that the vocative is originally the nominative with the accent drawn back so that the final syllable became shortened in pronunciation. The evidence for this is (1) the fact that in Sanskrit the vocative is always accented on the *first* syllable, when accented at all, i.e. at the beginning of a sentence; (2) that in Greek a certain number of words accented oxytone in the nominative throw the accent back as far as it will go in the vocative (e.g. *ἀδελφός*, *πονηρός*, *πατήρ*, but *ἀδελφε*, *πόνηρε*, *πάτερ*). It is also noted that in Greek, if an oxytone noun becomes a proper name, in a majority of cases the accent goes back (e.g. *ἀμοργός*, "*Ἀμοργος*): and there is a passage in Aulus Gellius on the pronunciation of *Valéri* as *gen. or voc. sing. of Valerius*. As vocative, he says, it was accented *Váleri*; as genitive, *Valéri*.

In Greek.

In Greek guttural and labial stems, the nom. is used as voc. (except γίνα=γυνακ-): but in dental stems the mere stem is used, subject to euphonic laws, e. g. παῖ (παῖδ-), ἄνα (ἀνακ-), γέρον (γερωντ-). ποῦς however (stem ποδ-) and the nom. sing. of participles in -as, -eis, -ous, -ων (stems in -ντ) are used as vocative. The voc. in -ε of ο- stems is the stem with ο sunk to ε: θεός however (as *Deus*) is generally used for voc. (though in Matt. xxvii. 46 we have Θεέ μου); so φίλος (Hom. Od. iii. 375) and οἶτος. The voc. termination -αι of πειθῶ, αἰδῶ-s, etc., is anomalous; it appears however to stand to nom. sing. in -ω as Sanskrit voc. of fem. ā stems (e. g. अण्वे) stands to the nominative: for ē=-ai.

In Latin.

In Latin the nom. sing. is used for vocative, except in masculine stems in ο-, where the stem with -ο changed to ē is used. In *puer* (for *puer-us*) the abbreviated form of nom. is also voc.: but *puere* is found in Plautus.

The *Vocative Dual* and *Plural* in Sanskrit and Greek, and the *Vocative Plural* in Latin are the same as the respective nominatives.

Genitive Singular :—

Gen. Sing. :
Indo-Euro-
pean Forms.

There appear to have been two forms of Indo-European suffixes for the genitive case, viz. for α- stems (α-, ο-), *sa*; for all others, -as or -s. These suffixes are probably pronominal in their origin, and *sa* is perhaps compounded of the two roots *sa*, *ya*: but of this we can have no evidence¹.

Greek Gen. Sing. :—

In Greek.

In consonantal stems -ος (= -as) is added to the stem: ποδ-ός, γένους (= γένεος=γένεσ-ος). -ος is sometimes raised to -ως (πῶλε-ως, βασιλέ-ως). In diphthongal stems υ has generally passed into φ (consonantal) and thus disappeared, βοφ-ός (βου-), βασιλέφ-ος

¹ The old view that *-sa* of gen. sing. appears also as an adjectival suffix in δημό-σιο-s, so that the Homeric genitive δημοιο=δημόσιο-, the stem of the adjective, though plausibly supported by the identity in Sanskrit and other languages of genitive termination with adjectival suffixes (cp. Max Müller, Lectures I. iii), cannot, I think, hold against the question, Why then do we never find δημοῖος instead of δημόσιος? If -σιο=-*sa*, the s would surely have disappeared between two vowels, as usually in Greek. *σιο* in δημό-σιο-s is the adjectival suffix *τιο*, the τ being change before i to s, according to the universal tendency of pronunciation both in Greek and Latin. See above, p. 78.

(*βασιλευ-*). In *υ*- stems forms like *γουνός* (*γουν-*), *δουρός* (*δору-*) Gen. Sing.
Greek. are transpositions from *γουν-ός*, *δору-ός*: while *γλυκέ-ος*, *ἄσπεος*, etc., show that the stem vowel *υ* has been raised to *ευ* (*εf*) and become diphthongal; thus *γλυκέος*=*γλυκέf-ος* is analogous to *βασιλέ-ως*=*βασιλέf-ος*. Similarly *πόλε-ως* and Homeric *πόλη-ος*=*πόλεy-ος*; the stem vowel remaining unaltered in Ionic *πόλι-ος*.

Fem. *a*- stems have *-as* or *-s* added to the stem vowel, *σοφίας*, *φυγῆς*. Masc. and neuter stems in *ο*- originally formed gen. by addition of *-σyo*, whence the Epic gen. in *-οιο*; *ἄγροιο*=*ἄγρο-σyo* by omission of *σ*¹. The Attic gen. in *-ου* (Aeolic *-ω*) arises by contraction from the intermediate form *-οο*=*-οοιο*, with first *σ* and then *ι* omitted; a few examples of which occur in the Homeric poems, e.g. *Αἰόλοο κλυτά* Od. x. 60, *Ἰλίοο* Il. xv. 66, xxi. 104, *ῥοο* Il. ii. 325, Od. i. 70, *ἄργίοο* Il. xxii. 313.

From masc. stems in *a*- we find three forms in Homer. (1) *-ᾱο*; (2) *-εω* (*Ἀτρείδεω*), in which the quantity of the two syllables *-ᾱο* is transposed, and *a* weakened to *ε* (*-εω* then becomes one syllable by synizesis and the accent remains unaltered in spite of *ω* in final syllable, as with *πόλεως*, etc.); (3) *-ω* by contraction from *-ao* (after vowels), *Ἑρμείω*, *βορέω* (*Ἑρμεία-s*, *βορέα-s*). Aeolic has *-a* (*o* being lost), *Αἰδᾶ*, *Κρονίδᾶ*. The earliest form in *-ao* is probably =*a-σyo*, *αyo*; but Curtius, in his work on Greek Etymology, derives *-ᾱο* from *āos*=*āyas*, the gen. sing. termination of Sanskrit fem. stems in *-ā*, which change the stem vowel *-ā* into *ai* (*ay*) before *-as*, e.g. *ἄqνᾱ* (*equa*), gen. *ἄqνāyas*; but *ἄqva-s* (*equus*), gen. *ἄqva-sya*. The Attic gen. in *-ου* is a contraction from *-εο*, which is for *-ao*, *πολίτου*=*πολίτα-o*.

Latin Genitive Singular :—

The suffix *-as* appears in Latin as *-os*, *-us*, *-es*, *-is*.

(1) *-qs*, *senatu-os* in S. C. de Bacch. (Appendix I. ii.).

(2) *-us*, on inscriptions up to the end of the seventh century, A. U. C. (rarely after 100 B. C.), *Cererus*, *Caesarus*, *hominus*, *Venerus*, etc. From this in *υ*- stems arose the contraction *ūs*=*uus* (*domuus* inscr.). It also survives in *alius*, *illius*, etc.

In Latin :
Consonant
stems.

¹ In the Thessalian dialect, the gen. sing. of *ο* stems often ended in *-οι*, about which there are two views: (1) that it = *-οο*, minus the final *ο* (Ahrens, 'De Dialectis Aeolicis,' p. 221; 'De Dialecto Dorica,' p. 528 sqq.); (2) that it is an old locative used in a genitive signification.

(3) *-es*, on inscriptions before the Second Punic War, *Salutes, Apolones*: and again in late Latin, *Caesares, campestris*, etc.

Gen. Sing.,
Latin.

(4) *-is*, the ordinary gen. sing. of consonant stems proper. The *is* of *i-* stems (*ovis*) was perhaps originally *īs = i-os*: thus *ovis = ovi-os*, as we find a form *alis = alios (alius)*. The tendency to shorten final syllables, aided by the tendency to see analogy between two similar terminations *ovis, nominis*, would sufficiently account for the subsequently uniform *-is* of both consonant proper and *i-* stems. *-is* is obviously parallel to Greek *-os*, cp. *genus, gener-is* with *γένος, γένε-ος (γένεος, γένους)*.

u- stems.

The *u-* stems exhibit the greatest variety of gen. sing. inflection: thus we find (1) *-uos* as above; (2) *-uus*, as above (in some cases however *-uus* may be due to a method of denoting the length of a vowel by doubling it, introduced by the tragic poet Accius, and prevalent on inscriptions from about 130-75 B. C.; found also regularly in MSS. of Pliny the elder, where *-uus* represents *-ūs* of gen. sing. nom. and acc. plur. of *u-* stems); (3) *-uis*, retained in *su-is, gru-is* (which then, by analogy, are declined like *i-* stems), and used by several writers up to temp. Cicero, e. g. *senatuis, domuis*, etc., quoted by Gellius; *quaestuis* (Ter. Hec. 735), *fructuis, victuis*, etc. (Varro); (4) *-i*, perhaps an analogy of *-o* stems (from similarity of nom. sing. *-us*), or possibly from some confusion with the past part. in *-tus*, most of the examples being from words where *t* precedes the stem vowel *u-*, e. g. *adventi, quaesti, ornatī* (all in Terence), *senati, fructi*, etc. (see Roby's Latin Grammar, vol. i. § 399); (5) the ordinary termination *-ūs*, by contraction from *-uus* or *-uis*.

Vowel stems.
Gen. in *-i*.

In *o-* stems the gen. ends in *-i* or *-ei* (inscriptions from the time of the Punic Wars to Augustus). Three explanations of this termination are suggested:—

(1) That it is a *locative*, which has supplanted the old genitive. This would account for, and has probably been suggested by, the apparently abnormal grammatical usages of *Romae, Tarenti* in a locative sense; these, however, may be otherwise explained (see below, p. 126).

(2) That like Greek *-ov*, it arises from the termination *-sya*, i. e. *agri = agroī = agro(s)i(o)*. This gives at first sight a plausible

parallel between the Greek and Latin *o-* declensions; but the only real parallel to this supposed Latin abbreviation of *-syo* is the Thessalian gen. in *-α* mentioned above (p. 112), and Bopp truly points out that '*lupi* and *lupae* from *lupai* rest on the same principle; and if *lupi* proceeds from *λύκοιο*, whence can *lupai* be derived, as the corresponding Greek feminine nowhere exhibits an *-αο* or *-ηο*?' (Comp. Grammar, § 189.)

(3) That the original termination was *o-is* (i. e. *-as* added to the stem), the final *-s* being lost, and *-oi* contracted to *-i*. This explanation is made more probable by traces of a final *-s* in the other Italian dialects: e. g. Oscan *suveis* (*sui*), *Pumpai-aneis* (*Pompeiani*); Umbrian *puples* (*populi*), *katles* (*catuli*), etc., which lead us to infer an Italic genitive in *-ois*, whence Oscan *-eis*, Umbrian *-es*, Latin *-i*. The analogy of fem. *a-* stems will also bear out this conclusion. For them we have in *paterfamilias* and the old genitives *terrās* (Naev.), *viās* (Enn.), etc. distinct evidence of a termination *-ās*, the readiest solution for which is that it is a contraction for *-a-is* (*is* = *as* added to the stem), a termination found in one old inscription in *Prosepmas* = *Proserpinae*, and on vulgar inscriptions (not before seventh century A. U. C.) appearing as *-aes* or *-æs* (chiefly in proper names of freedwomen and slaves *Juliaes*, *Anniaes*, *Vernaes*, etc.). The other form in *-āi* (Lucr. and Virg.) or *-ae* may then be traced to the same *-ais* by loss of final *-s*, and corresponds exactly to *agri* = *agroī* from *agro-is*. This explanation, which reconciles the two forms *-as* and *-ai* (*ae*), and harmonises the declension of both masc. and fem. *a-* stems (*o-* and *a-*) appears upon the whole the simplest and most satisfactory.

Of stems in *-s* four forms of gen. sing. are found, viz. *-ēs* Gen. Sing. of *-e* stems. (*rabies*, Lucr. iv. 1083), *-ei*, *-ē* (*fide*, Hor. Od. iii. 7. 4; *die*, Virg. G. i. 208) and *-i* (e. g. *dii*, a variant for *die*, in Aen. i. 636; see Roby, Latin Grammar, i. § 357). Of these *-ē* and *-ī* are contractions of *-ei*: *-ei* and *-es* are phonetic varieties of *-ai* and *-as* of the *a-* stems, and the explanation above given covers them.

Genitive Plural:—

An original Indo-European type *-as-ams*, i. e. *-as* (gen. sing.) Gen. Plur.: Indo-European type.

Gen. Plur. + *-am* (pronominal element found in *bhy-am* etc. see p. 120) + *-s* (plural sign), is imagined by Schleicher and others: which *-asams*, it is supposed, would gradually sink to *-asām*, *-sām*, *-ām*. Of these forms, *-ām*=Greek *-ων*, Latin *-um*; *-sām*=Latin *-rum* of *a-* and *o-* stems; while the quantity of *o* before *-rum* (*equōrum* from stem *equō*), and of Sanskrit *tāshām* (*horum*) from stem *ta* (*hic*) perhaps points to *-asam*, whose initial vowel coalescing with the stem vowel would make a long syllable. [In Sanskrit only the pronominal declension retains this trace of a longer form *-sām* or *-asām*: with nouns, *-ām* is added direct to consonant stems, e.g. *vāc-ām* (*voc-um*), while vowel stems are increased by *n* before the addition of *-ām*, e.g. *ācva-n-ām* (*ācva-s*), *āvi-n-ām* (*avi-*).]

In Greek; *Greek Genitive Plural*, *-ων*=*ām* is added to the stem. The *o-* of *o-* stems coalesces with it, *λύκων*=*λυκόων*: and the same is apparently the case with *a-* stems, viz. *χωρῶν*=*χωράων*. The fem. gen. plur., however, is *always* accented with circumflex, the masc. only when the accent of nom. sing. is oxytone: and it has been supposed that this difference points to an original difference in formation, the *ā-* stems having the suffix *-σων* (*-sām*); so that *χωρῶν*=*χωράσων*. This is to some extent borne out by the Homeric form *āων* of such gen. plur., and the comparison of e.g. *τάων* gen. plur. fem. with Sanskrit *tā-sām* (*harum*) from stem *ta*. *σ* would of course naturally fall out between two vowels (p. 66). *τάων*, *is-ta-rum* and *tā-sām* would thus be parallel forms.

In Latin. *Latin Genitive Plural*. Formed by adding *-um* or *-om* (found in *u-* stems, and in *o-* stems after *u* or *v*) to consonantal *o-*, *i-*, or *u-* stems: e.g. *fulmin-um*, *avi-um*, *magistratuom*, *fructuum*; and *-uum* sometimes contracted into *-um*, *passum* (Lucilius, Martial), *currum* (Virg. Aen. vi. 653). Many consonantal stems are increased by *-i* on analogy of the *-i* stems, e.g. *merc-i-um* *penat-i-um* *amant-i-um* (also *amant-um*, which is not a contraction of, but an earlier form than that in *-ium*): but this addition is very rare with stems ending in *-n*, *-r*, *-s* (except *vir-i-um*, *complur-i-um*). Some consonantal stems

follow the analogy of *-u* stems, e.g. *alitu-um* (Lucr. and Virg.) Gen. Plur. Latin. beside *alit-um*.

o- stems (masc. and neut.) add either *-um* (*-om*) or *-orum* (*-asam*) to the stem. The first is not, as sometimes regarded, a contraction of the longer form: it is in fact probably the older, being the only one known to the Umbrian and Oscan dialects, occurring exclusively on early coins of fifth century A. U. C., and most frequently on inscriptions of an early date (*Romanom*, *sovom*=*suorum*, *divom*, etc.). The other form in *-orum* gradually superseded it, and occurs commonly on inscriptions of the second century B. C. and later: and in and after Cicero's time¹, the form in *-um* was found only in certain words: e.g. *nummum*, *denarium*, etc.; *deum*, *ducenturum* and other numerals, especially distributive; *deum*, *divum*, *virum* and compounds, *Italum*, etc.; *nostrum* and *vestrum* (see below, p. 136). *a-* stems form gen. plur. in *-ārum*; but *-um* is formed (1) from masc. patronymics in *-des* (*Aeneadum*, etc.), (2) compounds of *gigno* and *colo* (*terrigenum*, *caelicolum*)—both in dactylic poetry only; (3) from the fem. stems *amphora*, *drachma* (but these are probably borrowed from Greek). *-e* stems have the form in *-rum* (*dierum*, etc.).

The forms *boverum*, *nucorum*, *regerum*, *lapiderum*, noticed by Varro, seem (if genuine) to point to the occurrence of the longer form in consonantal stems with *e* = *i* as a connecting vowel; *i* being suffixed to the stem as with the other form in *-um* where the termination *-ium* is formed from a purely consonantal stem. Another explanation supposes an addition to the stem of *-er*, because in some words an *-r* is found in gen. sing. (*acipenseris*, *cucumeris*, etc.), and is therefore perhaps not peculiar to the plural number in the words in question.

The *Genitive Dual* agrees in form with the *Dative Dual* (p. 123).

Ablative Singular :—

The Ablative has been retained as a distinct form in Declension only by Old Persian (Zend) and Latin. Sanskrit preserves Ablat Sing. in what languages retained.

¹ See Cicero, 'Orator,' xlv. § 155; and compare Roby's 'Latin Grammar,' § 365 (vol. i. p. 124).

Alpat. Sing. it in masc. and neut. *a-* stems, Greek in adverbs in *-os*, where *s* = *t* of Sanskrit ablative; this *-t* probably representing an original *-d* retained in Old Latin and in Zend.

Thus $\delta\mu\omega s = \delta\mu\omega t = samāt$, abl. of *sama*, 'similar:'. $\pi\omega s$ (Ionic $\kappa\omega s$) = I. E. *kvat*, abl. of *kva*. The Sanskrit *a-* stems (masc. and neut.) preserve the final *-t* ($\phi ivāt$, $\acute{a}qvāt$): in all others the ablative is identical in form with the genitive in *-as*; such merging being prevented in the *a-* stems by the retention of the longer genitive form in *-sya*.

In Latin.

Latin Ablative Singular :—

Here the original *-d* (as in Zend *d*—written *t* by Schleicher) has been retained; but is only found in Old Latin and Oscan, being lost in Classical Latin and Umbrian. Thus we find on inscriptions *senatud*, *praidad*; *gnaivod* (Ep. Scip. Appendix I. i. 1); *sententiad*, *couentionid*, and the adverbs *suprad*, *extrad*, *facilumed* (S. C. de Bacch., Appendix I. ii.). This form *facilumed*, with e. g. Oscan *amprufi-d* (= *improbe*), suggests that the ordinary adverbial termination in *-e* is an ablative in *-ēd*, from adjectives in *-us*, *-a*, *-um*, and thus distinguished in form from the masc. and fem. ablatives in *-od*, *-ad* (which are also sometimes adverbial, as in *cito(d)*, *supra(d)*, *contra(d)*, etc.). The original quantity of the adverbial ablative in *-ē(d)* is generally retained, though shortened in some words in constant use, e. g. *benē*, *malē*.

In *o-*, *a-*, *e-*, and *u-* stems, the long vowel of the ablative *-ō*, *-ā*, *-ē*, *-ū* seems originally to have been followed by the characteristic *-d*, which however fell off at an early period. The latest inscription on which it occurs is the S. C. de Bacch. (186 B. C.), a formal legal document with much in its orthography that was archaic at the time; and it is by no means found constantly even in the earliest inscriptions. Thus on that of Scipio Barbatus (see Appendix I. i. 1) we find *gnaivod*, but *patrē*; while on the other Scipionic inscriptions it hardly occurs at all. Ritschl, indeed, holds that it was in use in the time of Plautus, whom he assumes to have used it or not at pleasure: and accordingly he restores to the text of Plautus forms like *med*, *ted*, *sed* (*me*, *te*, *se*) almost *ad libitum* for metrical conveni-

ence¹. Corssen however maintains that the final *-d* of abl. sing. was no longer heard or spoken, and therefore not likely to have been written, in the time of Plautus and Ennius; admitting at the same time that Plautus *might* have availed himself occasionally *metri gratia* of an archaic form no longer in use, just as Virgil in later times used the archaic genitive *aquai*, or infinitive *farier*².

In consonant and *i*-stems we find both *-ī* and *-ē* as abl. terminations. In classical Latin, most adjectives in *-is* have *-i* (thereby securing a distinction from the neut. sing. in *-ē*); most substantives and participles *-ē*. Some substantives however regularly have *-i* (see above, p. 108, note); in others which usually have *-ē*, *-i* is also found, especially in Lucretius (see Munro on i. 978). In late and vulgar Latin all ablatives in *-i* are weakened to *-ē*. The history of the forms is as follows. The original form was probably *-īd* (I. E. *āt*), seen e. g. in *marid* (Columna Rostrata, B. C. 260), *couentionid* (S. C. de Bacch.), and traceable in *ante-hac* (the non-elision of which is perhaps due to its original form *antīd-hac*). This *-īd* became *-ēd* and then *-ē*, which quantity is found on the Epit. of Scipio Barbatus (Appendix I. i. i.) in a Saturnian verse, *Gnaivod | patrē | progna | tus || . . .*, and Plaut. Capt. iv. 2, 28 (trochaic), *Tum pistores scrofipasci qui alunt furfurē sues*. From 150 B. C. onwards *-ē* becomes most common. *-ei* and *-ī* are also found: e. g. on Ep. Scip. 4 (Appendix I. i.), *virtutei*, ablat., and *-ī* in consonantal stems, *luci* Plaut. Aul. iv. 10, 22; Ter. Ad. v. 3, 55; Lucr. iv. 235; Cic. Phil. xii. 25. The tendency of pronunciation to obscure and weaken all final syllables brought all these forms at last down to the weakest form *-ē* (see above, p. 57).

¹ Ritschl, 'Neue Plautin.' Excurs. i. 106.

² 'Ueber Aussprache,' etc. II. pp. 1005-1008. The objections here urged by Corssen appear almost conclusive against Ritschl's view:—e. g. his citation (1) of many instances from Plautus where the final vowel of abl. sing. coalesces by 'synaloepha' with a following vowel, with no such traces of the influence of a final *-d*, as are found for example in Homer of the lost 'digamma'; and (2) of examples from Ennius of ablat. in *-ē* (*voce videtur*, *cordē meo*, etc. in hexameters) without a trace of length by position. The shortening of this *-e*, it may further be observed, is itself a subsequent process, presupposing the entire disappearance of *-d* from the original ending *-ēd* (see below).

The Ablative Plural agrees in form with the Dative Plural (see p. 129).

Locative Singular :—

Loc. Sing.,
Indo-Euro-
pean type.

The general type is *-i*, for Indo-European noun-stems; but pronominal stems have *-in*, which is the older form. (The locative termination of fem. stems in Sanskrit *-ām* seems to point to the oldest form of the suffix.) The locative is retained as an independent case in Sanskrit, Zend, Slavonic, Lithuanian; in Greek, Latin, Teutonic, and Keltic, it has coalesced with the dative and genitive (its functions being also shared with gen. and abl. in Greek and Latin).

In Greek :

In Greek, the dative singular in *-i* is properly a locative form *ποδ-ί*, *γέρον-ι*, etc.; and the locative meaning is retained in such forms as *Μαραθῶνι*, *Σαλαμῖνι*, *ρυκτί*, κ.τ.λ. The dative of *o-* and *a-* stems is a true dative (see below, p. 127): but side by side with it we find locative forms such as *οἶκοι* (*οἶκο- + i*), *χαμαί* (*χαμα + i*). This locative *-oi* of *o-* stems becomes in Aeolic *ui*—*πυῖδε*, *μεσὺι*; and in Doric *-ei*, e. g. *πέι* (*ποι*), *τηνεί*, *τουτέι*, *τεῖδε*: this form in *-ei* being also found in Attic *ἀμαχεί*, *πανοικεί*, *ἐκεί* (= *ἐ-κο-ι* from stem *κο-*). *ἄγχι* is perhaps locative (= *ἄγγει*) from a stem *ἄγγο-*, whence *ἄγγου*: and *αἰεί* might be locative of a stem, *aifo*=Sanskrit *ēva*, Latin *aevo-*: though the Doric form *αἰές* points rather to a stem in *-s*, the locative of which is *αιε(σ)ί*. *μοί*, *σοί* (Doric *ροί*) are probably locatives.

In Latin.

In Latin there are but few traces of a distinct locative case; the locative, both in form and functions, having become merged in either the ablative or dative (? genitive) case. In consonant declension forms like *rurī*, *vesperī*, *herī* (= *hes-i* from *hes*, Greek *χθές*, cp. *hesternus*) may be locatives, but are not distinguishable from dat. or abl. in *ī*.

From *o-* stems *humi*, *belli*, *foci*, *Corinthi*, etc. are perhaps locatives, but are assimilated in form to the dative (as in *illi*, *soli*) or the genitive. *Postri-die*, *quotidie*, etc., and in Old Latin *die quinti*, *die crastini*, seem to point to a locative form merged in the dative: and so *Romae*, *militiae* (*Roma-i*, *militia-i*) are perhaps originally locatives formed by adding *i* to the stem, but are now undistinguishable from the gen. or dat.

Perendie, *jam* and the pronominal adverbs in *-im* (Appendix Loc. Sing. II, A.) are supposed to indicate the still older locative termination *-in* = *-am*.

[The locative terminations in Sanskrit are *-i* (consonant and In Sanskrit. diphthong stems), *-āu* (masc. stems in *i-* and *u-*, the stem vowel disappearing), *-ām* (fem. stems in *ā i- ū-*), *-ē* (= *a + i* masc. and neut. stems in *a-*), and *-in* (only in pronominal declension).]

Locative Plural :—

From the forms of this case in the Asiatic branch of Indo- Loc. Plur. European languages (Sanskrit *-su*, *-shu*, Zend *shva*, *shū*, *-shu*, *-hva*, *-hū*, *-hu* and Old Persian *-suwā*) an original type *sva-sa* (*sva* pronominal, and *sa* plural sign) is postulated by some philologists (Schleicher, Comp. § 256). However this may be, the Sanskrit *-su* evidently corresponds to the Greek *-σι* or *-σσι* (*σfi*) of the dative plural, which is thus, like the dat. sing. in *-ι*, really locative. *-σι* or *-σσι* are sometimes added direct to consonant stems, sometimes by a 'connecting vowel' *ε*: e. g. *ποσσι* (= *ποδ-σι*), but also *πόδ-ε-σσι* (Epic.); *κυσί* and *κύν-ε-σσι* (*κυν-*); *πολί-ε-σσι*, *πόλissi* and *πόλεσι* from *πόλι-*. In *o-* and *a-* stems the forms *ἵπποισι*, *χώραισι* may (as is suggested by some) result from a lengthening of the stem by *ι* (*ἵππο-ι-σι*, *χώρα-ι-σι*): But it is simpler to regard them as formed by the addition of the plural sign *-σι* to the locative sing. (*ἵπποι-σι*, *χώραι-σι*). In a few feminine forms like *θυῤῃσι*, *Ἀθήνησι* the termination *-σι* appears to be added to the stem; unless we may suppose these forms to have been written with an 'i subscriptum,' like the Epic forms *-ησι*, *-ης*, which are from lengthening of *a* in *-αῖσι*, *-αῖs*.

In *Latin*, the locative plural is merged in the form of dat. and abl. plur. The dat. abl. in *-is*, however, of *o-* and *a-* stems is very possibly a locative form (see below, p. 129).

No *Locative Dual* is found in Greek or Latin: but Sanskrit has a form ending in *-ōs*.

Dative Singular :—

General type *-ai*, Sanskrit *-ē*, Greek *-αι* (= *o- ai*), *-α* (= *a + ai*), Dat. Sing., Latin *-i*. Different views are held as to the origin of this ter- General type. mination, viz. :—

Dat. Sing.,
General
type.

(1) That it is a strengthening of the locative *-i*.

(2) That it represents the preposition *abhi*, *bh* being lost, as in Sanskrit *çiva*s, instrumental plur. of *çiva*, and as *ç* is lost in Doric *ἐμν* and Epic *ρεῖν* (=ma-bhyam, tu-bhyam). These pronominal datives (cp. Latin *tibi*, *sibi*, etc.) give *bh* : and as pronouns generally preserve more archaic forms than nouns, they perhaps point to the original form of the dative. The use of the preposition *abhi*, 'towards,' to form the dative would be analogous to the Latin idiom of *ad carnificem dabo*, etc. found in Plautus, and to the use in modern languages of the prepositions *to*, *à*, *zu*, etc. to express the dative.

In Greek ;

In Greek *a-* stems, (*a-*, *η-*, *ο-*) alone have the true dative termination, *οἶκφ* = *οἶκο* + *α*, *θεᾶφ* = *θεα* + *αι* : in all others the locative in *ι* is used. Infinitives in *-μεναι*, *-εναι*, *-ναι*, *-αι* are probably datives of consonantal stems (see below, chap. viii).

In Latin.

In Latin, the dative in *-i* of consonantal and *i-* and *u-* stems perhaps represents Indo-European *-ai*. Inscriptions of fifth century A. U. C. give *-ē*, which is analogous to Sanskrit *-ā* = *-ai* : e. g. *Junone, matre, salute, Diove (Jovi)* : and this form appears to have been retained in some technical phrases, e. g. *solvendo aere alieno, jure dicundo* in Livy and Suetonius. Umbrian has *-e* : *patre* = Sanskrit *pitṛē* (*patri*). Later inscriptions (sixth century A. U. C. to time of Augustus) give *-ei* : e. g. *quoiei* (Ep. Scip. 4, Appendix I. i.), *Apolenei, Diovei, Hercolei*, etc. Oscan has *-ei* : *paterei, Diuvei*, etc. Finally *-ei* became *-i*, which does not appear on inscriptions before the date of the Gracchi. Corssen considers *-ei* to be the original dative suffix and *-i* the locative : Schleicher (Comp. § 254) regards *-i*, *-e*, *-ei* as varieties of the same form, but locative. It would seem perhaps more reasonable to regard the three forms as identical : and the history of Latin orthography will supply many analogies to this variety of spelling (e. g. *nī, ne, nei* : cp. Ritschl's view of the relations of *ē*, *ei*, and *i* quoted in Roby's Latin Grammar, vol. i. § 268).

In *a-*, *e-*, *o-* stems the oldest forms appear to be *-ai*, *-ei*, *-oi*, (*quoi, populoi*, traceable in *huic* = *hoic*). With such stems the first letter of the termination *-ai* united itself to the stem vowel, and the results *-ōi*, *-āi*, *-ēi* seem to have been sometimes pro-

nounced as dissyllable; as is still the case with *-e* stems, where the full form is retained¹. Dat. Sing.
Latin.

In *o-* stems the final *-t* was dropped (*populo*=*populō-i*=*populo-oi*): just as in Greek (*ἰνπφ*=*ἰνπω-ι*=*ἰνπο-oi*, etc.), where however the traces of *i* remain in 'i subscriptum.' In *a-* stems *i* survives in Classical Latin *-ae*=*ai*: but dative forms like *Matuta*, *Tusco-lana*, etc. are parallel to Greek *θεῖα*=*θεαῖ*=*θεα-αῖ* and Latin *populo*, in the loss of *-i*. In *e-* stems also a similar form in *-ē* is found: e. g. *diē*, Plaut. Capt. iv. 2, 20; *fidē*, Aul. iv. 6, 1, Trin. i. 2, 80; *faciē*, Lucilius, etc.: and a monosyllabic pronunciation *metri gratia* of *-ei* gives the intermediate stage. Compare the remark of Aulus Gellius (ix. 14), 'In casu dandi qui purissime locuti sunt non "faciei" uti nunc dicitur sed "facie" dixerunt.'

Dative Plural :—

General type *bhyams*, i. e. *bhyam* of dat. sing. (as seen in Sanskrit pronominal declension, p. 143) + plural sign *-s*. Dat. Plur.,
Indo-Euro-
pean type. The Old Prussian *-mans* of dat. plur. is the natural representative, by the laws of phonetic change, of Indo-European *bhyams*, and therefore confirms the inference that this is the primitive form. *-mus* in Lithuanian (*mumus*, *jumus*=*nobis*, *vobis*) points to the same form: for if the original had been Sanskrit *bhyas*, Lith. would have *-mas*; but *u* is accounted for by the nasal *m*.

This case form appears in all Indo-European languages except Greek, which employs locative plur., as in sing. (see p. 126). In Sanskrit *-bhyams* becomes *-bhyas* (cp. acc. plur. *-as*=*am-s*, p. 116).

In Latin, *-bhyas* becomes *-bios* or *-bius*, then *-bos*, *-bus* (for *In Latin.* loss of *i* cp. *min-us*=*minius* and see also on p. 59): and a parallel form appears in *no-bis*, earlier *nobeis*. This *-bus* is the Dat. in -bus. regular termination for consonant, *i-*, and *u-* stems, and is also found in *ambo-bus*, *duo-bus* (*o-* stems); *deabus*, *filiabus*, *libertabus* on inscriptions, and *amba-bus*, *duabus*, classical (*a-* stems); *diebus*, *rebus*, classical (*e-* stems). *-i* is usually added before it

¹ The dative termination *-ei* of the ordinary fifth declension seems to have been variously scanned as *ē-i*, *ēi*, and *ēi*; see for examples Roby, 'Latin Grammar,' § 306 (i. p. 122).

Dat. Plur. to consonant stems (*nomin-i-bus*, etc.); but in *bo-bus*, *bu-bus* = *bov-bus* we have possibly the remnant of an earlier formation by adding *-bus* direct to the stem. In *i*-stems *i* is found as *e* in Old Latin, e. g. *tempestatebus*, *navebos*: and in *u*-stems, *u* sometimes becomes *i*, as *fructibus*.

Dat. in -is. The dat. (also abl.) plur. of *o*- and *a*-stems (with the exceptions above given) ends always in *-is*, of which form there are two explanations:—(1) that it is dative, arising from *-fios* = *-bhyas*, which then becomes *-hios* (cp. *mi-hei* beside *ti-bei*) and then by contraction *-is* (see Schleicher, *Comp.* § 261, and on *f=bh* above, p. 69). This however is very hypothetical; and it seems simpler to believe (2) that *-is* is a *locative* termination; so that *musis*, *dominis* = *musais*, *dominois* = *musaisi*, *dominoisi*, and correspond exactly to Greek *χώραισι*, *ἀγροῖσι* (see above, p. 127). That *-ois*, *-ais* were the original terminations of the dat. plur. is shown by the old forms *oloes* (*illis*), *privicoles* (*priviculis*) noticed by Festus, and by the other Italian dialects. Thus an old inscription (possibly of Latin origin?) gives *suois*, *cnatois* (*suis*, *gnatis*). Oscan has *Neulanuis*, *legatuis*, *diumpais* (*Nolanis*, *legatis*, *lamphis*); and in Umbrian the dat. plur. of *o*- and *a*-stems ends in *-eis*, *-es*, *-is* (later *-eir*-, *er*-, *ir*), and of *i*-stems in *-eis*, *-es* (perhaps on analogy of *a*- and *o*-stems¹).

Dat. Dual. *Dative Dual*:—

Indo-European *-bhyāms*, lengthened from *-bhyāms*. Sanskrit here drops the *-s*, and has *-bhyam*.

In Greek *-bhyāms* became something like *-φιων*, which became *-φιν* and finally *-ιν*, as in *o*-stems *ἵππο-ιν* = *ἵππο-φιν*, *χώρα-ιν* = *χωρα-φιν*. All other stems follow the analogy of *o*-stems, and thus *-ο-φιν*, *-οιν* is the usual termination throughout, e. g. *γενέοιν* = *γενέσ-ο-φιν*, *πατέροιν* = *πατέρ-ο-φιν*, *εὐρέοιν* = *εὐρέφ-ο-φιν* (stem *εὐρυ-* with stem vowel raised). The Homeric forms *τοῖν*, *βλεφαροῖν*, etc. (from stems *το-* *βλεφαρο-*) appear to have an *ι* added to the stem; so that *τοῖν* = *το-ι-φιν*. The same form is found in some consonantal stems, e. g. *ποδοῖν* = *ποδ-ο-ι-φιν*,

¹ See Ferrar's 'Comparative Grammar,' p. 269.

Σειρήνοιν = Σειρην-ο-ι-φιν, where ο-, and afterwards ι-, have been added to the original stem, each under the influence of analogy.

There is no trace of *-bhymās* in Latin or any Italian dialect.

Instrumental Singular :—

There appear to have been two Indo-European forms, (1) *-ā*, (2) *-bhi* : and it is suggested (Schleicher, Comp. § 258) that these originally corresponded to the twofold meaning of (a) *comitative* ('I went *with* him'), (b) '*instrumental*' proper ('I cut it *with* a knife'), which are united in the Latin ablative case, and in our preposition 'with.'

Instrumental Sing.
Indo-European type.

(1) *-ā* is found in Sanskrit (वृद्ध-ā) : and in Greek possibly in the adverbial forms ἄμα (Doric ἀμᾶ), δίχα (διχᾶ), τάχα, φή (Il. i. 144, xiv. 499), ἀλλαχῆ, πάντα (Doric παντᾶ), δῆ = δῦα = γὰ from pronominal stem γα, whence the locat. *jam* (see for 'parasitic *d*,' p. 80).

(2) *-bhi*, which does not appear in Sanskrit, is in Greek *-φι*, a termination common in Homer, and not to be confused with the supposed earlier form of the dative dual *-ιν* mentioned above. It is used as (a) *comitative* (ἄμ' ἡοὶ φαινόμενῃφι), (b) *instrumental* proper (ἤφι βίηφι, Od. xxi. 315, cp. Il. xvi. 734); but also in a locative or ablative signification, by the easy transition from the notion of 'circumstances under which' or 'by which' to 'place at which' or 'from at which' : e. g. ἐπ' ἐσχαρόφι; or with ἀπό, ἐξ, ἐκ ποτιόφι, 'from *on* the sea' (whence *-φιν* has sometimes been wrongly interpreted as a *genitive* termination).

Latin offers no trace of either *-ā* or *-bhi*.

Instrumental Plural :—

Indo-European *-bhis*, i. e. *bhi* + *s*, of plural. Sanskrit has *-bhis* except in *a*- stems, where *bh* disappears (अण्वसि) : the Vedas however show ऋच्वे-bhis.

In Greek the final *s* is lost after *ν* (see p. 68) and the form is therefore identical with the singular *-φιν*, e. g. ναῖφιν, Il. ii. 794; κοτυληδονόφιν, Od. v. 433, θεόφιν, etc.

Comparison of Adjectives :—

The declension of adjectives has been sufficiently explained

Comparison
of Adjectives.

Comparison
of Adjec-
tives.

under that of substantives: and there only remains the question of the formation of 'degrees of comparison.' This is really part of the composition of words, i. e. the formation of stems from roots: for comparative and superlative are formed by addition to stem of positive of particular suffixes, in no way different from other suffixes, and not confined to adjectives. But the wide and general use of particular suffixes for this purpose, and the order usually observed in grammars, make it convenient to consider them at this stage.

Comparative degree. The supposed type of this stem in Indo-European is formed by a suffix *-yans* (= *yan-ta*) or *-tara*. These may be derived either from (1) *verbal*, or (2) *pronominal* roots. Those who derive from verbal roots connect *-yan* with Indo-European *yā*, 'to go,' whence Sanskrit *yā*, Greek *ίέναι*; *-tara* with Indo-European *tar*, 'to cross over,' whence Latin *trans*, English *through*: both roots thus signifying *progression*, and heightening the idea of the positive.

But it seems better, without trying to attach so definite a meaning to the suffixes in question, to regard them as derived from pronominal roots and akin to certain other pronominal suffixes traceable in Indo-European languages. Thus *-yans* may be connected with the common suffixes *-ant* (part. act. in Sanskrit, Greek, Latin); *-vant* ('provided with anything,' Greek *φέρ* in *ἰχθύος-φέρν*, *χαρίεντ*-, etc., *-εις*, *-εσσα*, *-εν*); and *-mant* (*mana*-, *man*-) in *τλή-μων*, *ποι-μην*, *ανι-μο*, *αλ-μο*, *certa-men*, *car-men*: partic. *-μενο*-, plur. 2 per. *-mini*, etc.

-tara = *-ta-ra*, the latter of which elements sometimes expresses the idea of comparative as in Latin *sup-er-us*, etc.

Compar.
suffix *yans*.

(1) *-yan* (*-yans*) or *-ians*.

Sanskrit *i-yas* (base of comparative).

nom. sing. *īyan(s)* masc., *īyas* neut.

acc. *īyānsam*.

instr. *īyas-ā*.

Greek *-ιον* (*-ιον* nom. = *-ιον-s*, *s* being lost and the vowel lengthened), before which final *-o*, *-u*, *-po*, of stem are dropped: e. g. *φιλ-ιον* (*φιλο*-), *ἡδ-ιον* (*ἡδν*-). *θάσσον* = *τάχ-ιον* (*ταχο*-), *μᾶσ-*

σόν = μάκ-ιον (μακρο-), αἰσχ-ιον (αἰσχ-ρο), μέϊζον = μέγιον (μέγας), Comparison of Adjectives.
 root μεγ-¹.

Latin -iōs, $\begin{cases} -ior, -or, \\ -ius, -us. \end{cases}$

-iōs is the oldest form, *n* being lost as in accus. plur., but retained in adverbial -iens. In adding -ios to vowel stems, the stem vowel is omitted; *prob-ior* (*prob-o*), *sapient-ior*.

In Classical Latin -iōs split into -ior, -ios; and the two forms then served to mark distinction of gender (*melior*, *melius*). The distinction between them was not originally very marked; and remains of Old Latin give e.g. *melios*, masc., and *prior*, *posterior*, neut.²

-iōr = -iōs. *ō* long in Old Latin (as in oblique cases), so Plaut. *Amphit.* i. 3, 50:—

‘Atque quanto nōx lōngiōr haec prōxuma.’

Capt. iv. 2, 2 (*auctiōr*), and in neut. *ūs*, Menaechmi, ii. 2, 52:—

‘Proin tū ne quo abeas lōngiūs ab aedibus.’

(2) -tara, Sanskrit *tara*, Greek -τερο-*s*.

Compar.
 suffix -tara.

In Latin it appears in e.g. *pos-teri*, *ce-teri*, *al-ter*, *neu-ter*, *u-ter*, *dex-ter*, *citra*, *ultra*, *frustra*; and possibly adverbs in -ter and *igi-tur*, etc. (see however Appendix II, A.).

In pure comparatives, only in composition with the other form -iōs, e.g. *ci-ter-ior*, *de-ter-ior*, etc., or *sin-is-tero*, *min-is-tero*, etc. (cp. Greek λαλ-ιστερο-*s*).

[*mag-ister*, *min-ister* = the greater, the less person, cp. English ‘mayor,’ ‘major,’ ‘minor.’]

Comparison of Adjectives.—Superlative.

The elements of superlative formation of Indo-European languages are -ta and -ma, either separately or combined, or either of them doubled, or in combination with the comparative stem; as under the following heads:—

¹ On the production of these forms by assimilation, see above, pp. 75, 6; and compare Schleicher, ‘Comp.’ § 148 d, e (pp. 224–226), and Peile, p. 228.

² Priscian quotes ‘senatus consultum *prior*,’ ‘bellum Punicum *posterior*,’ and says, ‘Vetustissimi etiam neutrum in -or finiebant, et erat eadem terminatio communis trium generum.’ In the appropriation of -ior to the masculine gender we perhaps see the result of analogy with substantives in -or, *honor*, *labor*, etc., which are usually masculine.

Superlative
suffixes.

1. *-ta* ; in numerals *πῶτ-ος*, *ἕκτο-ς*, *sexto-*.
2. *-ma* ; *πρῶμ-ος*, *primo-*, *summo-*, etc.
3. *ta-ta* ; the ordinary Greek superlative in *-taro-ς*.
4. *ta-ma* ; in Latin *optumo-*, *dextumo-* (or without the superlative idea, *finitimo-*, *maritimo-*). With these Corssen classes the superlatives *facillimus*, *acerrimus*, *veterrimus*, which forms he holds=*facil-timo-*, *acer-timo-*, *veter-timo-* ; *-timo* after *l*, *r* becoming first *-simo-*, and then by assimilation (p. 74) *-limo-*, *-rimo-*. Thus *proximus*=*propic-tumus* (from an adjectival stem *propico-*) ; thence *propicsumus* and by contraction *proximus*. *Maximus*=*mag-tumus*, *mag-sumus*. Another explanation however (see Roby's 'Latin Grammar,' Preface, p. lxi) makes these forms=*-ios* or *-is* of comp. + *-i* + *-mus* (*-ma*) ; e.g. *facillimus*=*facil-is-i-mus* under strong contraction. The difficulty here is in the insertion of *i* between *is* and *mus*. Both theories are possible : Corssen's however follows a wider analogy, and (except in one or two cases) rests upon an easier contraction (see below, number 8, on *-issimus*).
5. *ma-ta* ; Greek *πύματο-ς*, *ἰσθόματο-ς*.
6. *yans-ta* ; Greek superlative in *ιστο-*, *μέγιστο-ς*, etc.
7. *yans-ma*=*ios-mo*=*is-mo*=*i-mo* in *minimo-*, *plurimo-*, etc. where *i* is all that remains of the comparative suffix.
8. *yans-ta-ma*=*is-tumo*, found in two words, *sollistumum* (*tripudium*), Cic. de Div. ii. 34. 72, explained as 'perfect' from *sollus*=*totus* ; and *sinistumus*, superlative of *sinister*, as *dextumus* of *dexter*. On the analogy of these two forms, Corssen explains the regular Latin superlative in *-issimus*=*-is-tumus*=*-ios-tumus* (see above, number 4, on *facillimus*, etc.). Here again another explanation is offered, that *-issimo*=*-is-imo*¹, the double *s* being due partly to the desire to indicate the length of the preceding syllable, partly to an attempt to preserve the sound of *s* sharp. It seems doubtful, however, whether *s* is ever 'sharpened' to *ss* for merely phonetic reasons, except where a syllable is lost before it (as in *locassim*, etc.) ; and of this moreover there is no example in noun-forms.
9. *tara-ma*, in *extremo-*, *postremo-*.

¹ See Roby's 'Latin Grammar,' vol. i. Preface, p. lxi.

Paradigms of Noun Inflection in Sanskrit, Greek, and Latin. Paradigms of Noun Inflection;
(From Bopp, Schleicher, and Ferrar.)

Consonant Stems.

I (a). Consonant Stems:—

| | Sanskrit. | Greek. | Latin. |
|-------------------------|--------------|--------------|------------------|
| (1) Stem | vāc- (fem.) | δπ- (fem.) | vōc- (fem.) |
| Singular:— | | | |
| Nom. | vāk | δπ-α | vōc-α (vox) |
| Accus. | vāc-am | δπ-α | vōc-αm |
| Gen. | vāc-ās | δπ-ός | vōc-īs |
| Abl. | | | voc-ē(d) |
| Loc. | vāc-ī | δπ-ί (dat.) | |
| Dat. | vāc-e (= ai) | | voc-i |
| Instr. | vāc-ā | | |
| Voc. | vak | | |
| Dual:— | | | |
| Nom. Acc. | vāc-ā, -āu | δπ-α | |
| Gen. Loc. | vāc-ós | | |
| Dat. Abl. } Instr. } | *vāg-bhyām | δπ-ο-ιν | |
| Plural:— | | | |
| Nom. | vāc-as | δπ-ες | vōc-ēs (voci-es) |
| Acc. | vāc-as | δπ-ας | vōc-ēs |
| Gen. | vāc-ām | δπ-ων | vōc-um |
| Loc. | vak-shú | δπ-οί (dat.) | |
| Dat. Abl. | *vāg-bhyās | | voc-i-bus |
| Instr. | *vāg-bhīs | (-φιν) | |

* c of stem assimilated to the media bh (see p. 77). This c is the palatal modification of guttural k, which appears only in nom. vak.

Inflection of
Consonant
Stems.

| | Sanskrit. | Greek. | Latin. |
|-------------------------|---------------------------------------|--|--|
| (2) Stem | bharant (masc. n.) | * <i>φέρωντ-</i> (m. n.) | ferent (m. f. n.), ferent-i |
| Singular:— | | | |
| Nom. | bhāran, bhārat (n.) | <i>φέρων (-οντ-ε)</i> | feren(t)-s |
| Accus. | bhārant-am, bhārat (n.) | <i>φέρωντ-α</i> | ferent-em |
| Gen. | bhārat-as | <i>φέρωντ-ος</i> | ferent-is |
| Abl. | | | ferent-ē(d) |
| Loc. | bhārat-i | <i>φέρωντ-ι</i> | |
| Dat. | bhārat-ē | | ferent-i |
| Instr. | bhārat-ā | | |
| Voc. | bhāran, bharat (n.) | | |
| Dual:— | | | |
| Nom. Acc. | bhārant-ā, -āu (m.) bharant-i (u.) | <i>φέρωντ-ε</i> | |
| Gen. Loc. | bhārat-os | | |
| Dat. Abl. } Instr. } | *bhārad-bhyām | <i>φερόντ-ο-υ</i> | |
| Plural:— | | | |
| Nom. | bharant-as, bhārant-i (u.) | <i>φέρωντ-ες</i> -α | ferent-es (-ies) |
| Acc. | bhārat-as (m.), bhārant-i (n.) | <i>φέρωντ-ας</i> -α | ferent-es |
| Gen. | bhārat-ām | <i>φερόντων</i> | ferent-ium (-um) |
| Loc. | bhārat-au | <i>φέρωντ-σι (-ουσι)</i> | |
| Dat. Abl. | *bhārad-bhyas | | ferenti-bus |
| Instr. | *bhārad-bhis | (-φιν) | |
| (3) Stem | mānas- (n.) dur-manas (m. f.) | <i>μένος, μένες</i> (n.) <i>δυσ-μενές</i> (m. f.) | <i>genus, genes</i> (n.) <i>vetus, vetes</i> (m. f.) (s becomes r) |
| Singular:— | | | |
| Nom. | mānas dur-manās (m. f.) | <i>μένος</i> <i>δυσμενής</i> | genus, arbōs (f.) vetus |
| Acc. | mānas durmanas-am (m. f.) | <i>μένος</i> <i>δυσμενέσ-α, -τά, -ῆ</i> | genus veter-em (m. f.) |

Greek forms a feminine by addition of suffix *ya* to this stem, *φέρωντ-γα*, *φέραυα*, which is declined as a fem. *a-* stem. The same formation exists in Latin as a fem. noun: *patien(t)s*, *patient-ia*.

* Assimilation of *t* to *h*.

| | Sanskrit. | Greek. | Latin. |
|-------------------------|--|---|-------------------------------------|
| Gen. | mānas-as | γενέσ-ος, -εος, -ους | gener-is |
| Abl. | | | gener-ē(d) |
| Loc. | mānas-i | γένεσ-ι, μένει | (ruri ?) |
| Dat. | mānas-ē (=ai) | | gener-i |
| Instr. | mānas-ā | (δ)χεσ-φι = bhī) | |
| Voc. | mānas | μένος δυσμενέος (m. f.) | genus |
| Dual:— | | | |
| Nom. Acc. | mānas-i (n.) durmanas-ā, -āu (m. f.) | (μένεσ-ε) μένη δυσμενέσ-ε, δυσμενή | |
| Gen. Loc. | mānas-ōs | | |
| Dat. Abl. } Instr. } | mānō-bhyām | γενέσ-ιν, -εριν, -οῖν | |
| Plural:— | | | |
| Nom. | mānāms-i (n.) durmanas-as (m. f.) | μένεσ-α, -εα, -η δυσμενέσ-ες (m. f.) -εες, -εῖς | gener-a (n.) veter-ēs (m. f.) |
| Acc. | mānāms-i dur-manas-as (m. f.) | μένεσ-α, μένη δυσμενέσ-ας (m. f.) -εας, -εῖς | gener-a (n.) veter-es (m. f.) |
| Gen. | mānas-ām | γενέσ-ων, -έων, -ῶν | gener-um |
| Loc. | mānas-su | μένεσ-σι, μένεσι | |
| Dat. Abl. | mānō-bhyas | | gener-ibus |
| Instr. | mānō-bhis | (μένεσ-φι) | |

N. B.—Masc. and fem. forms are only given where they differ from those of the neuter stem.

I (b). Stems in *i* :—

| | Sanskrit. | | Greek. | Latin. |
|-----------------------|---------------------------|--------------------------|---|-------------------------|
| Stem | ávi- (m. f.) vári (n.) | | πολι- (fem.) ἰδρι- (adj.) | ovī mari- (n.) |
| Singular :— | | | | |
| Nom. | ávi-s | vári (n.) | πόλι-s ἰδρι (n.) | ovi-s mare (n.) |
| Accus. | ávi-m | vári | πόλι-v ἰδρι | ove-m mare |
| Gen. | ávēs | vári-η-as ávy-ās (f.) | πόλι-os, πόλι-ωs πόλη-ος = πόλει-ος (-ωs, adv.) | ovīs |
| Abl. | | | | ovē(d) mari-(d) |
| Loc. | ávāu | vári-η-i ávyām (f.) | πόλι-ι, πόλει πόλη-ι | |
| Dat. | ávay-ē | vári-η-ē ávy-āi (f.) | | ovī |
| Instr. | ávi-n-ā | vári-η-ā ávy-ā (f.) | | |
| Dual :— | | | | |
| Nom. Acc. | ávī | vári-η-ī | πόλι-ε, πόλει | |
| Gen. Loc. | ávay-ōs | vári-η-ōs | | |
| Dat. Abl. } Instr. | ávi-bhyām | | (πολί-ο-ιν) πολεοῖν | |
| Plural :— | | | | |
| Nom. | ávay-as | vári-η-ī | πόλη-es = πόλει-es πόλι-es, πόλει-s ἰδρι-α (n.) | ovēs mari-a (ovi-es) |
| Acc. | ávī-n (m.) | vári-η-ī ávī-s (f.) | πόλη-as ἰδρι-α πόλει-s | ovēs mari-s |
| Gen. | ávī-n-ām | | πολί-ων, πόλει-ων | ovī-um |
| Loc. | ávī-shu | | πόλισι, πολέ-σι πολί-ε-σσι | |
| Dat. Abl. | ávī-bhyas | | | ovī-bus |
| Instr. | ávī-bhis | | | |

N.B.—Neuter forms are only given where they differ from those of masc. and fem. stems.

I (c). Diphthongal Stems :—

| | Sanskrit. | | Greek. | | Latin ¹ . |
|--------------------|------------|------------|----------|----------|----------------------|
| Stem | 1. nāu- | | 1. ναῦ- | | 1. (navi-) |
| | 2. gau- | | 2. βοῦ- | | 2. bou- (bov-i) |
| Singular :— | | | | | |
| Nom. | nāu-s | gau-s | ναῦ-s | βοῦ-s | navi-s bō-s (bous) |
| Acc. | nāv-am | gā-m | νηf-a | βοῦ-v | nav-em bov-em |
| | | | ναῦ-v | | |
| Gen. | nāv-ās | gō-s | νηf-ós | βοf-ós | navi-s bov-is |
| | | | νε-ós | | |
| Abl. | nāv-ās | gos | | | navē(d) bovē(d) |
| Loc. | nāv-í | gáv-i | νηf-í | βοf-í | |
| Dat. | nāv-ē | gáv-ē | | | nav-i bov-i |
| Instr. | nāv-ā | gáv-ā | ναῦ-φi | | |
| Voc. | (as nom.) | | ναῦ | βοῦ | (as nom.) |
| Dual :— | | | | | |
| Nom. Acc. | nāv-ā, -āu | gáv-ā, -āu | νηf-ε | βοf-ε | |
| Gen. Loc. | nāv-ōs | gáv-ōs | | | |
| Dat. Abl. } | nāu-bhyām | go-bhyām | νηfo-iv | βοfo-iv | |
| Instr. } | | | νε-ōiv | | |
| Plural :— | | | | | |
| Nom. | nāv-as | gáv-as | νηf-es | βοf-es | navēs bovēs (ies) |
| Acc. | nāv-as | gáv-as | νηf-as | βοf-as | naves boves |
| | | gās | ναῦ-s | βοῦ-s | |
| Gen. | nāv-ām | gáv-ām | νηf-ōv | βοf-ōv | navi-um bo-um = |
| | | | νε-ōv | | bov-om |
| Loc. | nāu-shú | gō-shu | νηv-σί | | |
| | | | nav-σί | bov-σί | |
| | | | νηfε-σσι | βοfε-σσι | |
| Dat. Abl. | nāu-bhyās | gō-bhyas | | | navi-busbō-bus |
| | | | | | bū-bus |
| Instr. | nāu-bhís | gō-bhis | ναῦ-φiv | | |

¹ The disappearance of diphthongs in Latin (see p. 56) leaves but little trace of diphthongal stems. *navis* is throughout an *i*-stem: but the declension of *bos* retains traces of a stem *bou-* or *bov-* corresponding to Greek *βοῦ-*, *βοf-*.

II (a). Vowel Stems (masc. and neut.):—

| | Sanskrit. | Greek. | Latin. |
|-------------------------|--|--------------------------|---|
| Stem | áçva- (m.) yugá (n.) | ἵππο- (m.) ζυγο- (n.) | equo- (m.) jugo- (n.) |
| Singular :— | | | |
| Nom. | áçva-s yugá-m | ἵππο-ς ζυγό-ν | equo-s (equus) jugo-m (-om) |
| Acc. | áçva-m yugá-m | ἵππον ζυγό-ν | equo-m jugo-m |
| Gen. | áçva-sya | ἵππο-(σ)ιο | equo-is |
| Abl. | áçvā-t | ἵππο-ο, ἵππου | equo-i, equi equō(d) |
| Loc. | áçvē (áçva-i) | (οἴκο-ι, οἴκοι) | (domi = domo-i?) |
| Dat. | áçvā-y-a | ἵππο-σι, ἵπποι | equōi = equō-oi equō |
| Instr. | áçvēn-a (Vedic áçvā) | πεντό-φι | |
| Voc. | áçva | ἵππε (= ἵππο-) ζυγό-ν | equē (equo) jugo-m |
| Dual :— | | | |
| Nom. Acc. | áçvā, áçvāu | ἵππο-ε, ἵππων | |
| Gen. Loc. | áçva-y-ōs | | |
| Dat. Abl. } Instr. } | áçva-bhyām | ἵππο-ιν | |
| Plural :— | | | |
| Nom. | áçvā-s (Vedic áçvā-sas) yugān-i (n.) (Vedic yugá) | ἵππο-ι ζυγά (n.) | (equo-es, equeis) equi jug-a (m.) |
| Acc. | áçvān (= áçvān-s) yugān-i | ἵππους = ἵππων-ς ζυγά | equōs = equom-s juga |
| Gen. | áçvā-n-ām | ἵππο-ων, ἵππων | equō-rum equūm = equo-ōm |
| Loc. | áçvē-shu | ἵπποι-σι, ἵπποι-ς | (equo-is) equis |
| Dat. Abl. | áçvē-bhyas | | |
| Instr. | áçva-is (Vedic áçve-bhis) | (θεό-φιν) | |

II (b). Vowel Stems (feminine ā-).

| | Sanskrit. | Greek. | Latin. |
|-------------------------|---------------------------------|-----------------|------------------------------------|
| Stem | ācṇā | χώρα- | equa- |
| Singular:— | | | |
| Nom. | ācṇā | χώρα | equa |
| Accus. | ācṇā-m | χώρα-ν | equa-m |
| Gen. | ācṇā-y-as | χώρα-s | (equa-is, equās) equaī, equae |
| Abl. | | | equā(d) |
| Loc. | ācṇa-y-ām | χαμα-ί | (Romae=Roma-ī?) |
| Dat. | ācṇa-y-ai Ved. ācṇā-i (a-ai) | χώρα (χώρα-ai) | equai = equa-ai |
| Instr. | ācṇa-y-ā Ved. ācṇā | βίη-φι | equae |
| Dual:— | | | |
| Nom. Acc. | ācṇē | χώρα | |
| Gen. Loc. | ācṇa-y-ōs | | |
| Dat. Abl. } Instr. } | ācṇā-bhyām | χώρα-ν | |
| Plural:— | | | |
| Nom. | ācṇā-s (Ved. ācṇa-sas) | χώραι | (equa-es, equās; equais, equai) |
| Acc. | ācṇā-s | χώραs (-av-s) | equae |
| Gen. | ācṇā-n-ām Ved. ācṇām | χώραν (a-ων) | equās (-ām-s) |
| Loc. | ācṇā-su | χώρα-σι, χώρα-ς | equa-rum |
| Dat. Abl. | ācṇā-bhyas | | (equa-is) equis |
| Instr. | ācṇā-bhis | (-φιν) | equa-bus |

CHAPTER VII.

INFLECTION OF PRONOUNS.

THE Pronouns exhibit certain irregularities of inflection, which make it necessary to consider them separately from nouns. In many cases they have undergone such changes that the forms admit of only conjectural explanation: and the variety of pronominal roots employed makes it difficult, if not impossible, to reduce them to any uniform scheme. The Pronouns of the 1st and 2nd person, and the reflexive pronoun (Indo-European *ma-*, *tva-*, *sva-*) have no distinction of gender: a fact which is accounted for by their antiquity, if (as appears likely) they are the oldest extant elements in language, developed previously to the introduction of distinction of gender. The presence or absence of this distinction divides the pronouns roughly into two main heads, viz. (1) Pronouns without Gender (as above), and (2) Pronouns with Gender.

Pronouns
without
Gender.

(1) Pronouns without Gender (1st and 2nd Personal, and Reflexive).

The originals of these three pronouns, *ma*, *tva*, *sva*, are traceable in the oblique cases, and in Verb Inflections of person (*-mi*, *-si*, *-ti*, see below, ch. viii); but all speculation as to the derivation of meaning of these elements is fruitless. The declension of these three pronouns has many points of similarity, and they might without difficulty be considered together: but it seems best upon the whole to take them separately.

1st Personal Pronoun (*ma*).

Nom. Sing. Here we are met at once by a different form; viz. Sanskrit *ahám*, Greek *ἐγών* (Doric), *ἐγώ* (Attic), *ἐγώ*,

ἰώνυα, ἰώγα, ἰώνει (Boeotian), ἐγώνη (Laconian and Tarentine); ^{1st Personal Pronoun.} Latin *egō*, later *egō*¹. *Ahām* and ἐγών probably arise from a common form *agham*.

Accus. Sing. Sanskrit *mā-m*, *mā*; Greek μέ or ἐμέ (ε 'prothetic' or auxiliary, see p. 83), ἐμεῖ Doric; Latin *mē*. Quintilian (i. 5. 20) speaks of *mehe*: and in Old Latin *med*, *ted*, *sed* occur, probably formed on analogy of the ablative in *-d*. The quantity of *mē* as compared with μέ is variously explained as arising from confusion with the ablat. *mē* (Corssen²), as a consequence of its being monosyllable (Schleicher, § 265), or as a compensation for the loss of *-m*, i. e. *mē*=*mē-m*, *mī-m* (stem *mī-* as in *mī-hi*).

Gen. Sing. Sanskrit *māma* (stem reduplicated, case ending lost); Greek ἐμέο (Epic)=ἐμε-ογο (as *-οιο* of nouns, p. 119), ἐμεῖω (Doric), then by loss of *ι* (γ) ἐμέο, and by contraction ἐμοῦ, μοῦ (Attic), ἐμεῦ, μεῦ (Doric). ἐμέ-θεν (Homer and Eurip. *Hel.* 177) is formed by the suffix *-θεν*: so μέθεν quoted by Ahrens from Sophron (circ. 450 B. C.). The forms ἐμέος, ἐμοῦς, ἐμεῦς (Doric), ἐμεῖως, ἐμῶς (Syracusan), are usually explained as addition of gen. sign *-s* to the old genitive. In Latin *mei* is probably a locative, or borrowed from the possessive *meus*. An old genitive *mis* is said to have been used by Ennius.

Ablat. Sing. Sanskrit *ma-t*, Latin *mē-d* (as *tē-d*, *sē-d*), a form restored by Ritschl to many passages in Plautus, e. g. *Trin.* ii. 1, 36; *Amph.* ii. 2, 178; *Most.* ii. 1, 18.

Locat. Sing. Sanskrit *māyi*; Greek dat. μοί (μο-+ι); and perhaps Latin gen. sing. *mei*.

Dat. Sing. Sanskrit *mā-hyam*; Greek ἐμιν (Doric)=ἐμέ-φιν =(e)*ma-bhyam*, cp. p. 129; a form ἐμίνη (Tarentine) is also quoted. Latin *mī-hei*, *mīhī* (afterwards *mīhī*) is perhaps for *mīf-ei*, *f* representing an original *bh*, which becomes *b* in *tibei*, *sibei*.

Instr. Sing. No trace in Greek or Latin.

Nom. Plur. The Indo-European stem of this case was perhaps

¹ See Wordsworth, 'Fragments,' etc. *Intro.* xii. 4.

² 'Kritische Beiträge zur Lateinischen Formenlehre,' p. 528.

1st Personal
Pronoun.

formed by addition of the pronominal element *-sma* (*sa-ma*) to the demonstrative stems *ma-*, *a-*, *va-*, i. e. *ma-sma-*, *a-sma-*, *va-sma*. The first would account for Lithuanian *mės*; the second for (Vedic) Sanskrit *asmé*; the third for Sanskrit *vayám*, Gothic *veis*, English *we*. Greek $\eta\mu\epsilon\iota\varsigma^1$, $\acute{\alpha}\mu\mu\epsilon\varsigma$ (Aeolic), $\acute{\alpha}\mu\epsilon\varsigma$ (Doric), arise from stem *asma*, *asmi* = $\acute{\alpha}\mu\mu\iota$ - (by assimilation, p. 74) or $\eta\mu\iota$ - by loss of *s* and compensatory lengthening of *a* to η (cp. $\epsilon\sigma\mu\iota$, $\epsilon\iota\mu\iota$).

Latin *nōs* (*enōs*, Carm. Arval.) seems connected with stem *no*, which occurs in Greek $\nu\acute{\omega}\iota$, Sanskrit dual *nāu*, and accus. gen. dat. plur. *nās*. It may be that *nōs* is an accus. used as nom., and originally *nōs* (Sanskrit *nās*), but strengthened from analogy of the common accus. plur. in *-ōs* (*equōs*). Bopp, however, considers that *nos-* is the stem, found e. g. in *nos-ter*, and connects both it and Sanskrit *nās* with *sma*, whence he derives *-met* in *egomet*, etc., and *immo* = *i-sma*.

Accus. Plur. Sanskrit *asmān* = *asman-s*; Greek $\eta\mu\epsilon\alpha\varsigma$, $\acute{\alpha}\mu\mu\epsilon$ (Aeolic), from same stem as nom. plur.: Latin *nos* as nom. plur.

Gen. Plur. Sanskrit *asmākam* (an adjective in acc. sing. neut.), *nas*: Greek $\acute{\alpha}\mu\mu\epsilon\omega\upsilon$ (Aeolic), $\eta\mu\epsilon\omega\upsilon$ (Ionic), $\eta\mu\acute{\omega}\nu$, $\eta\mu\epsilon\iota\omega\upsilon$ (Epic) from stem $\acute{\alpha}\mu\mu\epsilon$ -, $\eta\mu\iota$ -; Latin *nostrum* = *nostro-um*, gen. plur. of possessive stem *nostro-*. *Nostro-rum* is also found in Plautus.

Abl. Plur. Sanskrit *asmā-t*; Latin *no-bis* (as dat.).

Loc. Plur. Sanskrit *asmā-su*; Greek (Aeolic) $\acute{\alpha}\mu\mu\epsilon\text{-}\sigma\iota\nu$.

Dat. Plur. Sanskrit *asmā-bhyam* or *nas*; Greek $\eta\mu\iota\nu$, $\acute{\alpha}\mu\mu\iota\nu$, where $\omega = \iota\text{-}\phi\iota\nu$ (see above, p. 130); Latin *nō-bis* (= *nos-bis*, if *nos-* be stem).

Dual. Greek nom. acc. $\nu\acute{\omega}\iota$, $\nu\acute{\omega}$, $\nu\acute{\omega}\epsilon$ (Boeotian), gen. dat. $\nu\acute{\omega}\iota\nu$, $\nu\acute{\omega}\nu$, are forms from a stem $\nu\omega$ = Sanskrit *nāu*, which is used (without inflection) for nom. gen. and dat. dual. In form this *nāu* is a regular nom. acc. dual from stem *na-*, as $\acute{\alpha}\gamma\upsilon\alpha\upsilon$ from $\acute{\alpha}\gamma\upsilon\alpha$ -.

2nd Personal Pronoun (tva).

¹ An Ionic form $\eta\mu\epsilon\epsilon\varsigma$, sometimes found in MSS. of Herodotus, seems to have had no existence.

Nom. Sing. Sanskrit *tvam* (perhaps=*ta+va+ma*); Greek ^{2nd Personal Pronoun.} *σύ, τί* (Doric), with Boeotian forms *τούν* or *τίν-η*, where *ν* probably=*-m* of *tvam*; Latin *tu*. In *τί, tu*, the *u* represents *υ* or *f*.

Acc. Sing. Sanskrit *tvā-m* or *tvā*; Greek *σέ, τέ* (Doric) (=σ*ε*fé, τ*ε*fé), *τίν* (Boeotian); Latin *tē*=*tve-m*, stem *tvi-* (for quantity see above on 1st pers. pron.); Umbrian has *tiom*, which either =*tuom*, =*tvam*, or (Corssen) =*tvio-m* from stem *tvi-* lengthened by *a* (cp. *e-u-m*=*i-o-m* from stem *i-*).

Gen. Sing. Sanskrit *táva*; Greek *τεοίο* (Epic), =*τεfo-σyo*=*tava-sya* (see p. 118); *σείο*=*tva-sya*, then *σέυ, σεῦ* (Ionic), and *σοῦ*; Doric *τεοῦς, τεῦς, τίως*, in which *-s* is added to the old form (cp. on 1st pers. pron.).

Abt. Sing. Sanskrit *tva-t*; Latin *tē* (old Latin *tēd*).

Dat. Sing. Sanskrit *tu-bhyam*; Latin *ti-bi*; Greek *τεῖν* (Epic).

Nom. Plur. The Sanskrit forms *yushmé* (Vedic nom.) and *yushmá-n* (accus.) point to *tva-sma* as the Indo-European form. The Greek and Latin forms (*ὑμεῖς, ὅμμες, ὑμέ, vos*) are parallel to those of 1st pers. pron., and so throughout the plural of 2nd pers.

Dual. The Greek forms *σφῶϊ, σφώ* (nom. acc.), and *σφῶϊν, σφῶν* (gen. dat.), retain in *φ* the *υ* sound of *tva*: *σφ*=*tv*. Latin has retained the *v* in *tui* and the possessive *tuis* (= *tvas*).

Reflexive Pronoun (sva).

The stem *sva-* appears in Sanskrit only in compounds, e.g. *sva-yam* (self), *sva-tas* (by oneself), etc.¹: but it is used to form the possessive *sva-s*=Latin *suus*=Greek *σφός*, which appears (by loss of *f* and change of *σ*, see p. 66) as *ός* the possessive pronoun in Homer. There is one distinction of gender in this pronoun, viz. Greek nom. acc. plur. neut. *σφέα*.

Nom. Sing., wanting in Greek and Latin.

Accus. Sing. Greek *εἶ*, Aeolic *fé*=σ*ε*fé, Epic *εί*=σ*ε*fé (see pp. 66, 68). *σfé*=*sva*, with inflection lost. The forms *μιν* (Epic), *νιν* (Doric), are perhaps reduplicated accusatives of stem

¹ See Curtius' 'Elucidations,' p. 85.

Reflexive
Pronoun.

i- (ἱμῦ): cp. Latin *sese*. Latin *sē=svē=svi-m*: Oscan *siom* either=*sva-m* or *svi-o-m* (see above on 2nd pers.). Old Latin *sed*; see on *med*, *ted* accus.

Gen. Sing. *εἰο* (Epic)=*σφε-σγο*, *ἔο* (Ionic), *οῦ* (Attic), *εῦ*, *εἰῶ* (Doric), *εἰῶς* (Boeotian), (see above on *εἰμῶς*, *τεῖμῶς*). In all these forms the aspirate=*σ* (p. 66) and *φ* has disappeared.

Abl. Sing. *σῇ*, original *sēd=sei-d* from stem *si* (in *si-bi*)=*svi*.

Loc. Sing. *οἶ*, Aeolic *φοῖ=σφο-ῖ*; Latin *sui* (see on *mei*, *tui*, p. 143).

Dat. Sing. Boeotian *εῖν*, Doric *ῖν* (*εῖν*)=*εἰφῖν*; Latin *si-bi*, Oscan *si-fei*, Umbrian *si-be* and *se-so* (Tab. Eugub.¹), which is perhaps a reduplicated locative=*se-so-i* (?), or a genitive form=*sva-sya*: but these are only conjectures to explain a very obscure form.

In the plural Greek retains the stem but little altered (*σφῖ=sva*), and has a very complete set of forms: while in Latin the plural forms are identical with the singular. Thus in Greek,—

Nom. Plur. *σφεῖς=σφέ-ες*.

Accus. Plur. *σφᾶς*, *σφέ-ας* (Ionic), *σφεῖ-ας* (stem raised), Doric *σφέ* (inflection lost), Aeolic *ᾶ-σφε* (a 'prosthetic' or 'auxiliary,' see above, p. 83).

Gen. Plur. *σφῶν*, *σφέ-ων* (Ionic), *σφείων* (Aeolic).

Loc. Plur. *σφί-σι*.

In Greek *Dual* the stem *σφω=svā*. *σφω-έ* then has the dual nom. acc. inflection as well as the stem vowel lengthened; *σφῶν* (gen. dat.).

¹ Wordsworth's 'Fragments,' Intro. xii. 9.

I. PRONOMINAL DECLENSION WITHOUT GENDER.

(i.) *Pronoun of the 1st Person (ma-) :—*

| | Sanskrit. | Greek. | Latin. |
|-------------------------|------------------------|---|-----------------------------------|
| Singular :— | | | |
| Nom. | ahám | ἐγών, ἐγώ | ego |
| Accus. | mā-m, mā | ἐ-μέ, μέ | mē |
| Gen. | māma | ἐμεῖο (ἐμε-σγο) ἐμοῦ, μου ἐμοῦ-s | (mei ?) |
| Abl. | ma-t | | mē-d |
| Loc. | má-yi | ἐμο-ί, μο-ί | mei (unless gen.) |
| Dat. | má-hyam | ἐμύν (ἐμε-φιν) | mi-hei, mihi |
| Instr. | má-yā | | |
| Dual :— | | | |
| Nom. | āvām | • | |
| Acc. | āvām, nāu | νῶι, νῶ | |
| Gen. Loc. | āvá-yōs | | |
| Dat. Abl. } Instr. } | āvā-bhyām (nāu) | νῶ-ιν, νῶν | |
| Plural :— | | | |
| Nom. | vayām asmé (Ved.) | ἄμμες (ἄσμι-) ἡμέ-ες (ἡμι-) ἡμεῖς | nōs (? nōs) (enōs, Carm. Arv.) |
| Acc. | asmán nas | ἄμμε ἡμέας, ἡμᾶς | nōs |
| Gen. | asmák-am (adj.) nas | ἡμεί-ων, ἡμέ-ων ἡμῶν | nostrum (nostro-um) nostri |
| Abl. | asmá-t | | nō-bis (dat.) |
| Loc. | asmá-su | | |
| Dat. | asmá-bhyam nas | ἄμμιν (ι-φιν) ἡμῖν | nō-bis |
| Instr. | asmá-bhis | | |

(ii.) Pronoun of the 2nd Person (tva-) :—

| | Sanskrit. | Greek. | Latin. |
|-------------|---------------------------|---|-------------------|
| Singular :— | | | |
| Nom. | tva-m | τό, σὺ | tu |
| Accus. | tvā-m, tvā | τέ, σέ (= τφε) | te = tve-m |
| Gen. | táva | τεοῖο (= τεφο-σγο) σεῖο, σεο σοῦ, σευ τεοῦ-ς | (tui ?) |
| Abl. | tva-t | | tē-d (= tei-d) |
| Loc. | tvā-yi | το-ί (tva-i) | tui (gen.) |
| Dat. | tú-bhyam | τεῖν (ι-φιν) | ti-bei, tibi |
| Instr. | tvā-yā | | |
| Dual :— | | | |
| Nom. | yuvām | σφῶι, σφῶ | |
| Acc. | yuvām, vām | | |
| Gen. Loc. | yuva-yōs | σφῶ-ιν (ι-φιν) σφῶν | |
| Dat. bl. | yuvā-bhyām | | |
| Instr. } | vām | | |
| Plural :— | | | |
| Nom. | yū-yām yushmē (Ved.) | ὕμμεσ ὕμμεσ, ὕμεισ | vōs |
| Acc. | yushmā-n vas | ὕμμε ὕμέας, ὕμεισ | vōs |
| Gen. | (yushmāka-m, adj.) vas | ὕμειων, ὕμέων ὕμῶν | vostrum vostri |
| Abl. | yushmā-t | | vō-bis (dat.) |
| Loc. | yushmā-su | | |
| Dat. | yushmā-bhyam vas | ὕμμι (ι-φιν) ὕμιν | vo-bis |
| Instr. | yushmā-bhis | | |

(iii.) Reflexive Pronoun (*sva-*):—

| | Greek. | Latin. |
|------------------|---|-----------------------------|
| Singular:— | | |
| Nom. | | |
| Accus. | ἐ, σε, ἐέ = σεσε μιν, νιν | se (= svi-m) sion (Osc.) |
| Gen. | ἐο = σε-σσο ἐο, οῦ, ἐῶ, ἐοῦ ἐοῦ-σ | (sui) se-d, se |
| Abl. | | |
| Loc. | ἐο, οἱ (φοι = σεφοι) | sui |
| Dat. | ἐν, ἐν = ε-φεν | sibi, sibi Osc. si-fei |
| Dual:— | | |
| Nom. Acc. | σφω-έ | |
| Dat. Abl. Instr. | σφω-εν | |
| Plural:— | | |
| Nom. | σφεις (σφέ-ες) | } as in sing. |
| Accus. | σφέ-ας, σφείας σφᾶς (Epic), σφέ ᾶ-σφε | |
| Gen. | σφέων, σφείων σφῶν | |
| Loc. | σφί-σι | |
| Dat. | σφί(ν) (ι-φιν) | |

(2) Pronouns with Gender,

The declension of these is rather complex, especially in Latin, where a great variety of pronominal stems is found; and an examination of all their forms belongs to the special grammar of each language. The following tables give the declension of the Indo-European demonstrative stem *ta-* in Sanskrit, Greek, and Latin; which, compared with the declension of nouns already given (above, ch. vi.), will serve for the general illustration of this class of pronouns.

Pronominal Stem *ta-*.

I. Masc. and Neut. :—

| | Sanskrit. | Greek. | Latin. |
|--------------------|--------------|----------------|--|
| Stem | ta- | το- | is-to- (i + sa + ta) |
| Singular :— | | | |
| Nom. | sa, ta-d | δ(ε), τó | istu-s, is-te, istu-d |
| Acc. | ta-m, ta-d | τό-ν, τό | istu-m, istu-d |
| Gen. | tá-sya | το-ῖο, τοῦ | istius (isto-i-os) |
| Abl. | tá-smā-t | [τῶς = τῶ-ν] | isto-d |
| Loc. | tá-sm-in | [οἱ = δ-ε] | isti! { = isto-i (loc.) as humi, quoi = isto-ei (dat.) as quoei |
| Dat. | tá-smāi | τῷ = το-οι | |
| Instr. | tēn-a | | |
| Dual :— | | | |
| Nom. Acc. | tāu (tā), tē | τά | |
| Dat. Abl. | tā-bhyan | το-ῖν | |
| Gen. Loc. | tā-y-ōs | | |
| Plural :— | | | |
| Nom. | tē, tā-n-i | τοί, οἱ, τά | istī, ista, ista-e-o (eis, hie, quae) |
| Acc. | tā-n, tā-n-i | τούς, τοὺς, τά | istō-s, ista |
| Gen. | tē-sham | τῶν | istō-rum |
| Loc. | tē-shu | τοῖ-σι, τοῖς | istis (quaeis) |
| Dat. Abl. | tē-bhyas | | (qui-bus, hi-bus, hoi-bus) |
| Instr. | tāis | | |

II. Feminine :—

| | Sanskrit. | Greek. | Latin. |
|--------------------|-----------|-------------|---------------------|
| Stem | ta- | τα- | ta-is-ta |
| Singular :— | | | |
| Nom. | sā | ἡ | is-ta, qua-i (quae) |
| Acc. | tā-m | τή-ν | is-ta-m |
| Gen. | tā-sy-ās | τῆ-ς | is-tius |
| Abl. | | | is-tā(-d) |
| Loc. | tā-sy-ām | τῇ (ἡφι) | is-ti (as above) |
| Dat. | tā-sy-āi | | |
| Instr. | tayā | | |

| | Sanskrit. | Greek. | Latin. |
|-----------|-----------|--------------|-----------|
| Dual :— | | | |
| Nom. Acc. | tā | τά | |
| Dat. Abl. | tā-bhyām | ταῖν | |
| Gen. Loc. | tā-y-ōs | | |
| Plural :— | | | |
| Nom. | tā-s | ταί | is-tae |
| Acc. | tā-s | τά-s | is-tā-s |
| Gen. | tā-sām | τά-ων, τῶν | is-tā-rum |
| Loc. | tā-su | τῇ-σι, ταῖ-s | is-tis |
| Dat. Abl. | tā-bhyas | | |
| Instr. | tā-bhis | | |

N.B. Gen. sing. -ius
 Nom. fem. and neut. istaec, quae } show increase of { isto-i-us
 stem by i: thus { ista-i-co, qua-i.

Comparing these forms with those of the nominal declension it will be seen that the nom. sing. termination -s is omitted from Sanskrit *sa* (masc.), being in fact (see p. 110) a mere repetition of *sa*. Thus beside Greek *ἐς* (Epic as a demonstrative pronoun) = *sa-s*, we have the later form *ὅς* = *sa*. Pronouns with Gender.

In Latin the -s is lost in *ille*, *ipse*, *iste* (where final stem vowel sinks to *ē*), *qui* (= *quo-i-s*), and *hic* (= *ho-i-ce*); but is retained in the old forms *ipsus*, *istus*, *ollus*, and regularly in *quis* (= *quō-s*), *is*, *alius*, etc.

The nom. acc. termination of neut. sing. in -*d* is characteristic of this class of pronouns. Sanskrit and Latin have retained the *d*, which Greek has lost: Zend has *d* in *taḍ*: and Gothic *thata*, whence our *that*. Bopp, Schleicher, Curtius and others give *tat* as the Sanskrit neut. sing.; Bopp explaining *ta-t* as = *ta + ta*, a repetition of the pronominal element (like *sas* = *sa + sa*), and illustrating the change to Latin *d* by the old ablatives *gnaivod*, etc.; cp. with Sanskrit abl. in *t*. But here also (see above, p. 124) -*d* is probably the earlier form of the termination. And if *tat* were the true form in Sanskrit, phonetic analogy would (it is said) require in Latin *istut*, in Gothic *tha-tha*. It is probable therefore that Latin -*d* is the original Termination of Neut. Sing.

Pronouns
with Gender.

form, and not a modification of *t*. Greek neut. sing. nom. having thus lost the final τ (δ) ends in *o*: but in other respects the pronominal is the same as the nominal declension of *o*- and *a*-stems.

In Latin also the *a* of stem *ta* is represented by *o* (masc. and neut.) and *a* (fem.), *quis*, *i-s*, *ali-s* being exceptions. But on the other hand there are certain peculiarities which distinguish the Latin pronominal declension more markedly than the Greek from that of noun stems in *a*-, *o*-, e. g.—

Peculiarities
of Latin
Pronoun-
declension.

(a.) Gen. sing. formed by addition of *-os* or *-us* (Indo-European *-as*, see p. 118) to the stem lengthened by *i*: thus *istius*=*is-to-i-os*, *huius*=*ho-i-os*, *cuius*=*quo-i-os*. This *-os*, *-us* = *-is* of consonantal declension.

(b.) Locative singular in *-i* used as dat., e. g. *is-ti*=*is-to-i* (see p. 126). The form *quoiei*, however, is apparently a true dative, from the stem increased by *i* (*quo-i-ei*), the locative form *quo-i* (*cui*) being the more usual in classical times.

(c.) It has both locative plural (*is-tis*, see p. 127) and dative plural (*qui-bus*).

(d.) The neuter termination *-d* (see above).

(e.) Increase of the stem by *i*. This *i* is probably parallel to the Greek suffix *ι*, found with pronouns especially, but *after* the case-suffix, e. g. *οἷοσί*, *τοδ-ι*, *οἷοί*, etc. Its place in Latin is between the stem and the case-suffix, and it is not carried through all the forms. It occurs always in gen. sing. *i-us*=*o-i-os*; often in nom. fem. sing. (*qua-i*, *ha-i-c*, etc.) and in neut. plurals which are similar in form; in masc. and fem. plurals in *-i* and *-æ*=*o-i*, *a-i*, as in nominal declension of *o*- and *a*-stems (p. 113), and in such dat. forms as *quo-i-ei*, *e-i-ei*.

The declension of Latin pronouns is treated very fully in Wordsworth's 'Fragments and Specimens of Early Latin' (Introd. ch. xiii. pp. 91-112). I give here the main results of Mr. Wordsworth's discussion, referring the reader to his work for details.

The chief pronominal stems in Latin are *ho-*, *to-*, *so-*, *eo-* (*quo-*), *ollo-*, *i-* or *eo-*. These are employed in the formation of pronouns in various ways, viz.:—

Formation
and Declen-
sion of Pro-
nouns in
Latin.

(1) Simply, as *quo-d*, *ollu-s*, *i-s*.

(2) Reduplicated or compounded, as in *is-to*, *i-p-so*, *quis-*
quis.

(3) Increased by *i*, as *quī* (*quo-i*), *ēī* (see above).

(4) Increased by *i* and compounded, as *ho-i-ce* (*hic*), *is-to-i-c*
(*istic*).

These are divisible into three classes, according to simplicity of declension : viz. :—

(i.) *Ollu-*, *isto-*, *ipso-*, *alio-*, etc.

(ii.) *Ho-*, *quo-*, *i-* or *eo-*.

(iii.) *So-*, *to-*, etc., defective and enclitic stems.

The following peculiar or archaic forms may be noted under each of these classes :—

(i.) *Ollus* (= *ille*) found in Ennius and old inscriptions, and surviving in *olim*, which preserves the oldest form with one *l*. In Lucretius and Virgil it is an intentional archaism.

Istus, *ipsus* are found in Plautus, and even in Terence (Hec. iii. 5. 5). The element *p* in *i-p-so* is the same which appears (as *p* or *pe*) in *rea-p-se*, *quis-p-iam*, *nem-pe*, *pro-pe*.

Alis, *alid* are late contractions of *alius*, *aliud* : *alis* is fem. in Catull. lxvi. 28 : *alid* is frequent in Lucr., who does not use *alis*.

The locative *is-to-i*, *isti* (see above, p. 126) is strictly locative in the adverbs *illi-c*, *isti-c*. A few examples of its use as genitive (perhaps from analogy of noun stems in *o-*) are given : e. g. Ter. And. iii. 5. 2, *nulli consili* ; Plaut. Trin. ii. 2. 37, *coloris ulli capiendi* ; ib. v. 38, *isti modi*. In each of these cases an ordinary genitive in *-i* is close at hand to suggest the analogy. Terence has *alterae* and Plautus *istae* for dat. fem.

A locative formation in *-im* or *-in* (cp. Sanskrit *ta-sm-in*) occurs in the adverbs *olim*, *illin-c*, *istinc*, *hin-c*, etc., cp. *long-in-quus*, *prop-in-quus*.

The plural is declined like ordinary *o-* stems.

(ii.) The stems *ho-* and *quo-* are further increased by *i* ; *ho-* having generally the enclitic *c*, or *ce* appended (a remnant of the pronominal stem *co-*). The increase takes place in sing. nom. *hīc* (*ho-i-c*), gen. *huius* (*ho-i-os*), loc. *hīc* (*ho-i-c*), and plur.

Declension
of Pronouns
in Latin :
peculiar or
archaic
forms.

nom. *hi* (*ho-i*), *ha-i*; dat. and abl. *hībus* (*ho-i-bus*, for examples see Wordsworth, p. 107).

The stem *quo-* (relative), when used as an interrogative pronoun, has a special inflection for nom. with the case suffix *s*, the stem vowel *o* being weakened to *i* (*qui-s*, *qui-d*). The same form is used indefinitely in *ali-quis*, *si quis*, *ne quis*; but then nom. fem. sing. and neut. plur. are not increased by *i*: e.g. *aliqua*, *si qua*.

In the declension of *is*, the stem *i* is sometimes increased by *i* to *ei* (nom. *e-i-s*, gen. *e-i-us*, dat. *e-i-ei*, nom. plur. *i-i*, *e-i-s*), sometimes turned into an *o-* or *a-* stem (*eo-m*, *ea-m*, etc.).

The following peculiar forms may be noticed:

Nom. Sing.: *ei-s* (raised form of *i-s*) is found on some inscriptions; and perhaps *adeo* represents a raised form of neut. *id* (*ad*, *eod*): but this is at best doubtful.

Hic (*ho-i-c*) is sometimes shortened to *hīc* (Virg. Aen. iv. 22), but not often: *hōc* (*hod-ce*) never.

Acc. Sing.: *im*, *em* in quotations from old laws¹ point to a time before the stem *i* was raised to *eo-*.

Huc (adv.) is originally *hoc*, 'to this place,' as in Aen. viii. 423, Ter. Eun. iii. 2. 48, and frequently in Plautus.

Honc (Ep. Scip. Appendix I. i. 2) and *quo-m* (S. C. de Bacch.) are old Latin forms. *Quom* is the adverb *quum* or *cum*; cp. *quon-dam*: and *quam*, *quanquam*, *quod* are all adverbial accusatives. (See Appendix II. A.)

Gen. Sing.: the suffixed *i* generally becomes consonantal; and in old poets *huius*, *cuius*, *eius* are often monosyllables.

Locat. Sing.: *heic* or *hīc* (adv.) is locative = *ho-i-c*, and so perhaps are *quī*, *quī-ne*, and *quī-ppē* (sometimes explained as ablat.). The form *quo-i* is found in Plautus² in the phrase *quomodi*, apparently gen. (cp. *istimodi* above, p. 153); and *cui-modi* or *cui-cui-modi* are found in Cicero³.

¹ E.g. XII Tab. i. 1, 'Si in jus vocat, ito; ni it, antestamino; igitur em capito;' and viii. 12, 'Si nox furtum faxsit, si im occisit, jure caesus esto.' The existing remains of the XII Tables are given in Wordsworth's 'Fragments,' pp. 254-265.

² For references see Wordsworth, Introd. xiii. 30 (p. 103).

³ Pro Rosc. Amer. 95, 'Vereor enim cui-cui-modi es;' Att. iii. 22 ad fin., 'cui-cui-modi agam.'

Dat. Sing.: *ei-ei* on inscriptions; *ei-i* or *ē-i* in Plautus, and *Declension of Pronouns in Latin.*
 . Lucr. ii. 1136 (*cibus omnis diditur ei*): *quoi-ei* on inscriptions.

Nom. Plur.: the forms *eis*, *hisce*, *ques* have been alluded to under the noun declension (p. 114): for examples see Wordsworth, 'Fragments,' Introduction ix. 9 and xiii. 34. In the feminine *hæc* (for the more usual *hæe*) is not uncommon: e.g. Virg. G. iii. 305, Aen. vi. 852 (Cod. Pal.), vii. 175 (Rom.); Lucr. iii. 601 and vi. 456; Catullus, lxiv. 320.

The adverbial forms *postillā*, *proptereā*, *posteā*, *anteā*; *posthæc*, *antidhæc*, *quāpropter*; and the numerals *trigintā*, etc., show an earlier neut. plural of the pronouns in *a* without increase by *i*, as in *ha-i-c* (*hæe*); and are evidence for the original quantity of neut. plur. *ā*, seen in Sanskrit, and traceable in Latin poetry: e.g. Virg. Aen. iii. 464 *graviā*, Ter. Ad. 612 *debiliā*. (See Corssen, vol. ii. p. 460; Wordsworth, Introduction ix. 10, and xiii. 35; and cp. Wagner, *Intro. to Terence*, p. 14.) A form *ead* in S. C. de Bacch. is disputed, Bopp thinking it accus., Ritschl ablat.

Loc. Plur.: *eis*, *queis* or *quīs*, *heis* or *his* are all in common use as dative and abl. as well as the dative forms in *-bus*, which are more usual with *quo-*. Examples of *hībus*=*ho-i-bus*, *ī-bus* and *ī-bus* are given by Wordsworth, p. 107.

(iii.) The defective stems *so-*, *to-* and others are chiefly trace- Defective stems.
 able in adverbial forms.

So- (Sanskrit *sa-*, Greek *ś*, English *she*, German *sie*) is seen in *i-p-so*, and the old accusatives *sum*, *sam*, *sos*, *sas* in Ennius and the XII Tables (Wordsworth, p. 108). *Sic* (*sei-ce*) and *si* (*sei*) may be locatives of the same stem: but the analogy of Oscan *savi* and Umbrian *sve* (=Latin *si*) rather points to the pronominal element *sva*. *Sei*, *si* (Italian *se*) is the same word as *si-c*, originally a pronominal adverb='there,' 'in that way,' 'in case that,' and so 'thus' and 'if;' cp. the use of *so*='if' in English, e.g. Tennyson's 'Guinevere:'—

'It may be, *so* thou purify thyself,
 And *so* thou lean on our fair father Christ,
 Hereafter in the land where all is pure
 We two may meet.'

Pronouns in
Latin :
Defective
stems.

Ta-, to- (Greek *το-* in *αὐ-τό-ς*, *οὐ-τό-ς* and oblique cases of article; declined throughout in *is-to*, see the Table on p. 150): survive in a number of adverbs: e. g. *ta-m*, *ta-ntus*, etc. (retaining the vowel *a*); *tum*, *tun-c*, *i-tem*, *au-tem* (*a* sunk to *u* and *e*). *U-ti* (*u-tei*, *ut*) is a locative from this stem; and *au-t*, *a-t*, *e-t* are perhaps locatives similarly shortened. *I-tā* (so in Naevis' Epitaph, '*Itāque* pōstquam est Ōrci tradītus thesaūro') is ablative = 'this wise:' so *aliu-ta*, 'otherwise.'

From *da-, do-*, a similar stem to *ta-*, appear to be formed numerous adverbs and terminations, e. g. *-dam*, *-do*, *-dum*, *-dem*, *-de*, as in *quon-dam*, *quan-do*, *do-nec*, *age-dum*, etc.; *tan-dem*, *qui-dem*, etc.; *in-de*, *un-de*, etc. Into all these forms the idea of *time* enters (not necessarily *duration* of time as distinct from point of time in *tum*, etc.; for e. g. *-dum* = 'now' in *age-dum*, etc., as well as 'while')¹: hence it is possible that they may all be referred to the root *div-*, the origin of *dies*, *de-us* and many Indo-European words for the conception of 'brightness' or 'day' leading to that of 'God'², in Sanskrit *Dyaus-pitar* (*Dies-piter*, 'sky-father'), whence *Zeús*, *Jup-piter*, *Dius Fidius* (*Zeús πῑστῑος*), etc.; *inter-dius*, *inter-diu*; *prope-diem*, *pri-die*, etc. There is certainly in these latter words and the adverbs of which we are speaking a close parallel between the noun stem *div-* and the supposed pronominal stem *da-, do-*: and the two stems are identified by Corssen. Other philologists, however, regard the identification as improbable; and it certainly cannot be taken for granted.

Dē (prep.) is abl. from stem *da-*, like *sē-d*, *sē*, from *sa*. *Ia-m* is explained by Corssen (i. p. 213) as = *dia-m*, 'this day' (*dis-m*), like Greek *δή*, *ἤδη*, *δῆν*. Others refer it to a stem *ja-, ya-* (? German *ja*, our *yea*). In *quis-p-iam* its temporal sense is lost: but *et-iam*, *quoniam* retain it in their original use.

A stem *na-* (*no-*) or *an-* is supposed to account for *na-m*, *quis-nam*, etc. The full form is found in these and various weakened

¹ On the various uses of *dum*, see Ramsay's 'Mostellaria,' Excursus, ii. p. 184.

² On these words, see especially Max Müller's 'Lectures,' Series II, Lect. x. pp. 425-461, 1st ed.; and Peile, 'Introduction,' ch. v. p. 122 (3rd ed.).

forms in *nu-m*, *nun-c*, *vū*; *nem-pe*, *e-nim*, and Greek *viv*, which last is of course pronominal (see above, p. 145). These are all Pronouns in Latin: Defective stems. accus. forms: *nae* (*na-i*), *nē*, Greek *na-l*, are locative.

The stem *an-* is preserved in Greek *aná*, *án*, Latin *an* and *in*, *endo*. Its force is 'that,' 'the other.' Sanskrit has *aná* and Lithuanian *ana-s=ille*. Curtius compares *án-ω*, and Latin *an-helare*, 'to draw up breath.' The negative prefixes *án-*, *á-*, Latin *in-*, Sanskrit *an-*, *a*, German and English *un-*, are perhaps connected with the same stem; *án*, *an* in hypothetical sentences and questions are also akin. *In*, *endo*, Greek *év-l* and *eis=év-s* or *év-t-s* are local in meaning: the two uses of *in* with acc. and abl. being parallel to the two Greek forms.

The enclitic terminations *ce* or *que* in *hi-c*, *ne-c*, *ne-que*, *at-que*, etc. must arise from a stem *co-*, perhaps a variety of *quo-* (= 'who,' 'which,' 'any'), with the demonstrative meaning 'there:' *-pe* in *i-p-se*, *quis-p-iam*, *rea-p-se*, etc., and in *qui-p-pe*, *nem-pe*, *pro-pe* is possibly a dialectic variety of *ce*; Oscan and Umbrian substituting *p* for *k* (by 'Labialism,' see chap. iv. p. 50).

CHAPTER VIII.

VERB INFLECTION.

Distinction
between
Verb and
Noun

THE Verb (*ῥῆμα*, *verbum*, the 'word' *par excellence*) in Greek or Latin exhibits a much greater variety of inflection than the Noun. Time, mood, person, number, and voice are all expressed, and in some forms all at once, by inflectional additions to the root or simplest form expressing the idea; this verbal root being in no way different from a nominal root, so far as any power of expressing action etc. is concerned. Verbs are thus only nouns with a pronominal affix. The *abstract idea* of e.g. action, motion, sensation, etc., can be expressed equally by a nominal or a verbal root; but when expressed by a verbal root it is further brought into relation as a verb with other words in a sentence, (1) by *Person endings*, attaching it to a definite *subject* or subjects (the distinction of Number being expressed, as in Noun Inflection); (2) by *Modal* elements, defining the aspect under which the action is regarded, as a fact or a supposition; (3) by *Tense* elements, ascribing it to a particular relation in *time*.

Verb forms
more com-
plex.

A verb form, then, is distinguished from a noun form mainly by the greater number of different elements combined in it. In any case-form of a noun we find one invariable element, the stem, and one variable element, the case-ending, as in *παῖδ-ός*, *παῖδ-ί*, *παῖδ-ὦν*, etc.; or at most a vowel besides, inserted to connect the case-ending with the stem, as in *παῖδ-ε-σσι*. But

there are very few verb forms of so simple a character. In e. g. ἴ-μεν we have only stem and inflection; in ἀγ-ο-μεν, stem, 'thematic' vowel, and inflection; but in ἴωμεν, ἀγοίτε, we have an additional element denoting *mood*; in ἀγάγοιτε a further addition (to the verb stem) denoting *time*; in ἦγαγον another addition, viz. the *augment*. And a comparison of any of the more complex verb forms, in a 'synthetic' language like Greek or Latin, with their equivalents in an 'analytic' language like our own, is the best illustration of the general difference between an analytic and a synthetic language, and the specially complicated nature of the verb forms in the latter. The analysis of two such forms as ἐφιλήσαντο and *regeremus* shows (a) in ¹ἐ-²φι-³λή-⁴σ-⁵α-⁶ντο, 'they loved themselves,' 1. augment; 2. verb-stem; 3. addition to form tense-stem; 4. 'thematic' vowel added to the stem before inflection; 5. relic of a pronoun, denoting 3rd per. plur.; 6. voice-letter, indicating middle or passive: (b) in ¹reg-²er-³e-⁴mu-⁵s, 1. stem; 2. sign of past time; 3. sign of mood; 4. sign of 1st personal pronoun; 5. plural sign, denoting others with the person speaking. If s be changed to r (*regeremur*) it denotes that the speaker and others with him are *passive* instead of active.

The example last given (*reg-er-e-mus*) shows the order in which verb inflections are usually attached to the stem—viz. tense, mood, person, number, and voice. Modifications for tense and mood come between the stem denoting the idea of action, and the personal pronoun denoting the agent; inflections of number and voice, which affect the position of the agent by showing him to be either one of a number or passive instead of active, are appended after the personal pronoun.

The analysis of verb forms is thus more complicated than that of noun forms from the greater number of elements to be distinguished. There is also a further difference, that whereas in explaining the different forms of every single noun we can begin with one invariable element, i. e. with one stem only, in the explanation of verb forms we must assume several fixed points, from each of which we start as from a separate stem

Order of
Verb Inflec-
tions.

Further dif-
ference be-
tween Verb
and Noun;
Tense-
stems.

Verb Inflection: Tense-stems.

in the explanation of certain groups of forms. These special stems, or subordinate centres of classification formed from the verb-stem common to all, are known as *Tense Stems*; the elements of inflection by which *time* is denoted being of a less separable and general character than those of person or mood, and being in fact suffixes for the formation of subordinate stems, each of which is the permanent element or stem in a series of verb forms. Thus in a Latin verb the perfect and supine often show a different stem from that which appears in the present tense; and in a Greek verb such elements as ἀγαγ- in ἀγάγ-ομεν, ἀγάγ-οιτε, ἀγαγ-εῖν, ἀγαγ-έσθαι; ἄξ- in ἄξομεν, ἄξοιμεν, ἄξειν, etc.; λυσα- in ἔλυσα, λύσα-ι-μεν, λύσα-ς, λύσα-σθαι; or λελυ- in ἔλελυ-κα, ἔλελυ-μαι, ἔ-λελυ-το, have each a comparative permanence among a series of verb forms, and must be regarded as *stems*, though not the verb-stem, in each case. All scientific analysis, therefore, of verb forms in Greek and Latin must take into account the special tense-stems formed from the verb-stem (e.g. ἀγαγ- and ἄξ- from ἀγ- the stem of ἄγω; λυσα- and λελυ- from λυ- the stem of λύω; τυπτ- and τυψα- from τυπ- the stem of τύπτω, appearing in ἐ-τύπ-ην): and thus the question of *stem formation* must accompany that of *inflection* in the case of verbs to a much greater degree than in the case of nouns. 'To state the case briefly, it may be said that in the noun, formation—that is, formation of the word, or more correctly of the stem—and inflection in the narrower sense are distinct; but in the verb they combine, and encroach each upon the other. He alone is completely master of the verb forms who from the verb-stem common to all can first form all the special stems, and secondly can inflect the stems when correctly formed¹. It is not however necessary to follow the rigidly scientific order of (1) formation, (2) inflection, or learn always to form uninflected stems before we know how to inflect them when formed: but the formation of stems must in the case of verbs be discussed at least *pari passu* with their inflection. It is not enough to understand how to inflect τύπτω, -εις, -ει, ἔτυψα, -ας, -ε, etc.,

¹ Curtius, 'Elucidations,' p. 93.

without understanding how these different forms are connected together in one verb.

In discussing the elements of Verb Inflection, it is usual to take them in the reverse order of their attachment to the verb-stem, beginning from the end of the word with (1) the most universal and characteristic inflections, the *person*-endings, with their forms for active and middle (passive) *voice* and their inflections of *number*; (2) signs of *mood*; (3) *tense*-inflections, i. e. the formation of 'tense stems.'

I. *Person-endings*, i. e. pronominal suffixes of 1st, 2nd, and 3rd person in singular, dual, and plural number. There are two series for (1) active, (2) passive 'voice;' and in each series there appear a fuller and a weaker form, which are distinguished as (a) *primary* (-*mi*, -*si*, -*ti*, etc., used with present, future, and perfect tenses), (b) *secondary* (-*m*, Greek -*ν*, -*s*, -*t*, used with augmented tenses of Indicative), e. g.—

Primary, *τίθη-μι*, *τίπτο-μαι*, *τίπτο-νται*.

Secondary, *ἐ-τίθη-ν*, *ἐ-τυπτό-μεν*, *ἐ-τίπτο-ντο*¹.

II. *Mood Signs*, to distinguish the Conjunctive and Optative 'Moods' from the Indicative. Of the other so-called 'Moods,' the 'Infinitive' is a verbal noun, while the 'Imperative' is distinguished from the indicative by a weaker form of person-ending, standing in the relation not of nominative but of *vocative*, and is thus a sort of verbal interjection.

[The force of Moods is a question of Syntax: but it may be noted here that there can be, strictly speaking, only *two* 'moods' (*modi actionis*, modes or aspects under which the action is regarded), viz. (1) direct assertion that it is taking, has taken, or will take place—'Indicative' Mood: (2) the idea or supposition of its taking place in past, present, or future time—'Subjunctive' or Indirect Mood. This latter includes two distinct series of forms, called respectively Subjunctive and Optative 'Mood,' and denoted in Indo-European by distinct suffixes; but the grammatical relation of these two so-called 'Moods' is rather analogous to that of Primary and Historic Tenses

¹ Curtius' 'Greek Grammar,' § 226.

Elements of
Verb Inflec-
tion.

in the Indicative Mood, and in the Latin verb but one 'Subjunctive Mood' is recognised. The position of the sign of mood (see above, p. 159) is appropriate to its functions, as modifying the relation between the subject (person-ending) and action (verbal stem).]

Tense stems; III. *Tense Stems* may be thus enumerated :—

1. Perfect stem, originally formed by reduplication.
2. Simple or Strong Aorist (2nd aor.), generally exhibiting the verbal-stem in its simplest form¹.
3. Present stem, from which with the augment is formed the Imperfect in Greek.
4. Weak or Compound Aorist.
5. Future stem.
6. Strong Passive Aorist (2 aor. pass.).
7. Weak Passive Aorist (1 aor. pass.).

By 'Strong' tense-stems we mean those which are formed from the verbal stem² by reduplication or increase. 'Weak' or 'Compound' stems are formed by combination of the verbal stem, generally with some formation from the root *as* (ἐς), 'to be.' Under this head fall also such subordinate formations as the Pluperfect and 'Futurum Exactum' in Greek and Latin, from the Perfect Stem; or the special formation of the Imperfect in Latin.

Two other elements enter into Verb Inflection, an explanation of which may be given here—the Augment and the Thematic (or Connecting) Vowel.

The Aug-
ment;

IV. *The Augment.*

Language seems originally to have employed, as a means for expressing past time, the Augment—in Sanskrit *a*, in Greek *ε* (*a-bhar-a-m*, *ε-φερ-ο-ν*), prefixed to aorist, imperfect, and pluperfect tenses in both those languages. It is always accompanied by the secondary person-endings: but Curtius ('Das Verbum,' p. 104) suggests that it was originally the sole expression of

¹ As few Greek verbs develop both the strong and weak forms of the aorist; there are practically five groups of tenses in each Greek verb, viz. Present, Aorist, Future, Perfect, and Aorist Passive.

² See Curtius 'Greek Grammar,' § 246.

past time, and by increasing the word at the beginning gave ^{The Aug-} occasion for shortening the terminations. It was probably at ^{ment;} first a separable prefix: for (1) in older Sanskrit it is separable and (as in Homer) omitted at pleasure; (2) this separable character would help to account for its total disappearance in Latin, and in Greek from all moods but indicative. Of ^{Its origin.} its origin there have been various theories; but the only view worth noticing is that now adopted (e. g. by Curtius¹, Schleicher, etc.), viz. that it is a demonstrative pronoun-stem referring to past time, like the German *da*, *damals*. Its original form in Greek (as in Sanskrit) was *d*, of which traces remain in the Greek dialects (e. g. *ἀσβεσθε*, *ἄσπαχε*, *ἄδειπε*). This before a consonant became *ε* ('Syllabic Augment'): before a vowel it took the form of that vowel and combined with it to form one long syllable ('Temporal Augment'). Thus, e. g. the Doric *ἄγον* (imperf. of *ἄγω*)=*ā-āγ-on*: and *ἄπρο* corresponds to Sanskrit *ārta*, which no doubt arises from *a-arta*. This contraction took place before the separation of the *a* sound into *α*, *ε*, *ο* (p. 36): and after the root *ar-* became fixed in Greek as *αρ-*, *ἄπρο* stood to *ἄρνιμι* as *ārta* to *ar-nau-mi* in Sanskrit. With initial *ι* and *υ* we should have expected a diphthong, i. e. *αι*, *αυ* (*ει*, *ευ*): but verb-stems beginning with *ι* or *υ* seem to have followed the analogy of other initial vowels; and no doubt the augment came to be regarded as nothing more than a lengthening of the initial vowel.

The separable character of the augment in Sanskrit and Homeric Greek is no proof that it is unessential. 'Language' (as Curtius well remarks) 'not unfrequently lays aside individual symbols of meaning, when by means of them forms have been coined so distinctly marked, that the original elements are no longer absolutely necessary.' In Attic Greek it is never omitted except in *χρῆν* imperf. of *χρή*; in a few instances at the beginning of lines in the speeches of *ἀγγελα* in the Tragedians²;

¹ 'Elucidations,' p. 110; 'Das Verbum,' pp. 104 sqq. (pp. 72 sqq. Engl. transl.).

² In such examples as Soph. Oed. Col. 1602, *ταχὲι πόρευσαν*, and 1608, *πατὴρ πεσοῦσαι κλαίων*, we probably have instances of 'prodelision' of the initial vowel after a final vowel sound of the preceding word.

The Aug-
ment.

and occasionally in pluperfect tense (but mainly in the Hellenistic Greek of the New Testament).

The position of the augment in verbs compounded with prepositions (Curtius, Greek Grammar, § 238) is due to the looseness of connection between verb and preposition. Where however the parts of a compound verb are not so separable, the augment is placed first: e. g. *ᾠκοδόμησα* from *οικοδομέω*.

Apparent
irregulari-
ties in the
Augment
explained.

Certain apparent irregularities in the form of the augment (Greek Grammar, §§ 236, 7) may be explained by the loss of a consonant:—

(a) *ε* instead of *η* before *ἐθίζω*, *ἐλκω*, *ἐπομαι*, *ἐργάζομαι*, *ἐχω*, *ἐρπῶ*, *ἐστιάω*, *ἐάω*, etc. With the exception of *ἐάω*, the origin of which is doubtful, it can be shown that all these verbs began originally with a consonant, and therefore had originally the syllabic augment *ε*, which after the loss of the initial consonant naturally coalesced with the following *ε* into *ει*: e. g. *Φεργάζομαι* ('work,' see p. 68), imp. *ἐΦεργαζόμεν*: (*σ*)*ἐρπῶ* (Latin *serpo*), *ἐ-σερπον*, *ἐ-ερπον* *Φελίσσω* (*βολο*), *ἐ-Φελισσον*¹.

(b) Syllabic augment before a vowel in *ἐαδον* (*ἀνδάνω*), *ἐώθουν* (*ᾠθείω*), *ἐωνούμην* (*ᾠνέομαι*), etc.² Thus *ἀνδάνω*=*σΦανδάνω* (Latin *suavis*, cp. the Homeric form *εὔαδε*); *ᾠνέομαι*=*Φωνέομαι* (Latin *vendo*). The loss of the consonant was perhaps in the first instance compensated for by lengthening the preceding vowel, i. e. the augment itself, whence such forms as Epic *ἡείδη*=*ἐ-Φείδη* (root *vid-*): but afterwards the reverse process took place and the following vowel was lengthened, whence such forms as *ἐ-ἡνδανον*, *ἐ-ωνοχόει* (Homer), *ἐ-ῶρων* (root *for-*, cp. Latin *ver-eor*), *ἐᾶλων*, apparently with a 'double augment.' [Two exactly similar processes of compensation for the loss of *f(v)* are seen in the forms *βασιλῆ-ος*, *βασιλέ-ως*, both representing *βασιλέφ-ος* (stem *βασιλευ-*), see above, p. 118.]

(c) Doubling *ρ* after augment is generally owing to the fact that a consonant has fallen out before it; which consonant can

¹ Curtius ('Das Verbum,' I. pp. 121-126) examines fourteen words, in seven of which he traces the disappearance of *f*, in five that of *σ*.

² *ἐ-άγων*, *ἐᾶλην*, *ἐ-ᾶλ-ων*, *ἐ-ἄνασσε* (Alcaeus), *ἐ-είπον*, *ἐ-έστατο*, *ἐ-ηκε*, *ἐ-ῶρων*, *ἐνέωγον*, are other examples under this head. Most of the words referred to are discussed by Curtius in his 'Principles of Greek Etymology.'

sometimes be discovered by comparison with the kindred languages, e. g. in $\epsilon\rho\rho\epsilon\omicron\nu = \epsilon\text{-}\sigma\rho\epsilon\text{-}\omicron\nu$, Sanskrit *a-srav-a-m*, from root *sr-*, Sanskrit *sr-*, $\epsilon\rho\rho\epsilon\omicron\nu = \epsilon\text{-}\omicron\rho\rho\epsilon\omicron\nu$ from a root *fr-*, the *f* of which is seen in $\kappa\alpha\lambda\alpha\text{-}\upsilon\rho\omicron\psi$, $\epsilon\rho\rho\eta\xi\alpha = \epsilon\text{-}\omicron\rho\rho\eta\xi\alpha$ (cp. *freg-i*). The Homeric forms $\epsilon\lambda\lambda\alpha\beta\epsilon$, $\epsilon\mu\mu\alpha\theta\epsilon$, $\epsilon\sigma\sigma\epsilon\nu\alpha$ are perhaps due to the analogy of those already mentioned¹.

V. *The 'Thematic Vowel.'* In the ordinary conjugation of Greek verbs, the person-endings are not added directly to the stem, as in the conjugation of 'verbs in $-\mu\iota$ ' (e. g. $\epsilon\sigma\text{-}\mu\acute{\epsilon}\nu$, $\delta\acute{\iota}\text{-}\delta\omicron\tau\epsilon$): but between the pure verbal or tense stem and the inflection there intervenes (especially in Present and Strong Aorist) a vowel which appears as *o*, ω or ϵ —e. g. $\lambda\acute{\epsilon}\gamma\text{-}\omega = \lambda\epsilon\gamma\text{-}\omicron\text{-}\mu\iota$ or $\lambda\epsilon\gamma\text{-}\omega\text{-}\mu\iota$, $\lambda\acute{\epsilon}\gamma\text{-}\omicron\text{-}\mu\epsilon\nu$, $\lambda\acute{\epsilon}\gamma\text{-}\omicron\text{-}\nu\tau\iota$ (Doric for $\lambda\acute{\epsilon}\gamma\omicron\upsilon\sigma\iota$), $\epsilon\lambda\epsilon\gamma\text{-}\epsilon\text{-}\varsigma$, etc. In Latin it appears as *o*, *i*, *u*—*leg-o* (= *leg-o-mi*), *leg-i-mus*, *leg-u-nt*; and perhaps as *e*, *i* in Noun declension *ped-e-m*, *homin-i-bus* (see however p. 116).

The nature of this vowel has been much disputed. Bopp (Comp. Gram. § 495) regarded it as a pronominal element 'through which the action or quality, which is expressed in the root in *abstracto*, becomes something concrete—e. g. the expression of the idea "to love" becomes the expression of the person "who loves."

Curtius in his '*Tempora und Modi*' (1846) maintained that this vowel is a purely phonetic element, or, as it was called, a 'connecting vowel,' a device of language to render easier the pronunciation of two contiguous sounds—as e. g. in the forms $\beta\rho\epsilon\mu\text{-}\acute{\epsilon}\text{-}\tau\eta\varsigma$, $\nu\epsilon\phi\epsilon\lambda\eta\gamma\epsilon\rho\text{-}\acute{\epsilon}\text{-}\tau\eta\varsigma$, $\gamma\epsilon\nu\text{-}\acute{\epsilon}\text{-}\tau\eta\varsigma$, *gen-i-tor*, Sanskrit *ján-i-tā*; $\phi\acute{\epsilon}\rho\text{-}\epsilon\text{-}\tau\rho\nu$ beside $\phi\acute{\epsilon}\rho\tau\rho\nu$; Sanskrit *tup-i-tas* beside *τυπτός*; in such noun forms as *homin-i-bus*; and in verb forms like $\lambda\acute{\epsilon}\gamma\text{-}\omicron\text{-}\mu\epsilon\nu$, $\pi\epsilon\iota\theta\text{-}\acute{\omicron}\text{-}\mu\epsilon\theta\alpha$. In all these forms the pronunciation is no doubt rendered easier by the insertion of a vowel; while forms like $\tau\upsilon\pi\tau\text{-}\mu\epsilon\nu$, $\pi\iota\theta\text{-}\sigma\theta\epsilon$ could hardly be pronounced at all without it; and thus the principle of euphony seems to coincide with the effort to attain clearness; for the direct addition of person-endings to consonant-stems could not have been consistently carried out without the elision or modification of important

¹ See Monro, *Hom. Gr.* § 67.

consonants (e. g. the *m* or *s* of first or second personal pronoun), and consequent obscurity of meaning where clearness was all-important.

This theory of a 'connecting vowel' has much at first sight to recommend it: for it accounts, by a sufficiently natural explanation, for a large number of the phenomena to which it is applied in Greek and Latin. It is not, however, borne out by the phenomena of verb-conjugation in Sanskrit¹: and it has now been abandoned by Curtius himself, who, in his work '*Das Verbum der Griechischen Sprache*,' explains the vowel in question as being 'thematic,' i. e. a suffix to or increase of the stem or 'theme' previous to the reception of inflections; thus virtually returning to the theory originally propounded by Bopp (above, p. 165)². Instead of the person-endings being attached directly, for example, to the root *ag*, a nominal stem *aga* is formed from this root by addition of the pronominal suffix *a* (an addition which, in the early stages of word-formation, has the same 'attributive' force as an adjective or pronoun with a substantive has in a more developed stage of language, e. g. *ag-a*, Greek *ἀγ-ό(-ς)*: root *ag*: : *οἶτος ὁ ἀγῖρ*: *ἀγῖρ*); and this stem *aga* is combined as a verbal stem with *ta*, (*ti*), the sign of 3 sing. (*aga-ti* = *ἀγεται*, Latin *agi-t*), just as in its capacity of nominal stem it is combined with the demonstrative element *a(a)*, the sign of nom. sing. (*aga-s* = *ἀγός(-ς)*). So *ag-mas*, a conceivable 1 plur. form, would stand to *aga-mas* (*ἀγο-μες*, *agi-mus*), much as the Latin nominal-stem *ag-men* might stand to a conceivable form *agi-men* on the analogy of *regi-men*. These *a*-stems had in course of time so overgrown the earlier stratum, so to speak, of forms which attached the person-endings directly

¹ E. g. in verbs of the 'Tud' class of verbal bases ending in *अ, a*, the accent always falls on the *a* added to the root; thus, base *तुद्*, *tud*, to strike, 3 sing. *तुदति*, *tud-á-ti*. This stress is against the vowel being an unmeaning phonetic adjunct: and so indeed is the employment of *अ, a*, the strongest and fullest of all the vowel sounds.

In one sense, of course, it is a 'connecting' (or perhaps we should rather say 'intermediate') vowel, as coming between the original stem or root and the terminations.

² '*Das Verbum*,' I. p. 14 (p. 9 Engl. transl.).

to the root, that they became the rule of conjugation, the others remaining as a group of more or less exceptional and anomalous forms (in the conjugation of verbs in $-\mu$).

With this increase of verbal stems by α Curtius would class the addition of the suffixes *na*, *nu* (e.g. in $\sigma\kappa\iota\delta\text{-}\nu\alpha\text{-}\mu\epsilon\nu$, $\delta\epsilon\iota\kappa\text{-}\nu\text{-}\mu\epsilon\nu$), which a comparison of the cognate languages shows to have been a very early feature of Indo-European word-formation; *na*, *nu* being 'thematic,' inasmuch as they are suffixes used to form 'themes' from roots. But this group of verbs belongs practically to the 'non-thematic' conjugation of verbs in $-\mu$; and the term 'thematic' is generally restricted to those verb-forms whose stem receives the addition of the 'thematic vowel' properly so called— ϵ or o in Greek, e , i , or u in Latin.

CLASSIFICATION OF VERBS.

A. Latin :—

The traditional classification into four 'Conjugations,' according to the vowel preceding *-re* in the infinitive Mood, establishes, Classification of Verbs in Latin. by a happy instinct rather than upon any scientific principles, a tolerably complete classification, upon the same principle as that already applied to nouns (pp. 108, 109), viz. according to the final or 'characteristic' letters of the stem. The Latin Grammar gives us under its four heads :—

1. Vowel-stems in \bar{a} - (*amā*-).
2. Vowel-stems in \bar{e} - (*monē*-).
3. Consonant-stems and stems in \bar{i} - \bar{u} - semivowel (*reg-o*, *capi-o*, *tribu-o*).
4. Vowel-stems in \bar{i} - (*audī*-).

This division may be retained, but simplified into the broad distinction, already drawn in case of nouns, between (a) *consonant-stems* (including \bar{i} -, \bar{u} - semivowel), i.e. the '3rd conjugation,' and (b) *vowel-stems*, i.e. the 1st, 2nd, and 4th 'conjugations.' The fluctuating forms of tenses may be considered separately under the different 'tense-stems.'

B. Greek :—

The traditional classification of Greek verbs into verbs in $-\omega$, In Greek, contracted verbs (in $-\hat{\omega}$), and verbs in $-\mu$, though in itself far

Classification of Verbs in Greek.

from scientific, may be to a certain extent utilised as the basis of philological analysis. The ω of 1 sing. represents, as we have seen, the thematic vowel, which is a distinctive feature of the ordinary conjugation of verbs: while the verbs in $-\mu$ stand apart as a form of conjugation, rarer, and for several reasons presumably older, than that in ordinary use. In these verbs, for example, (1) the pronouns which form the person-endings are less obliterated, and are added directly to the stem ($\epsilon\sigma\text{-}\mu\acute{\epsilon}\nu$, $\delta\acute{\iota}\delta\omicron\text{-}\tau\epsilon$) without the intervention of a thematic vowel; (2) this form predominates in Sanskrit, and is more frequent in the oldest dialects of Greek; (3) the verbs in $-\mu$ contain the most elementary roots and denote the simplest ideas 'to be,' 'to give,' etc. Putting these then aside as one form of conjugation, we may set on the other hand the conjugation of all other verbs (treating the fluctuating forms of tenses under the head of Tense-formation), dividing these according to the final letter of the Present-stem (exclusive of the thematic vowel). Thus we have

I. Verbs in Ω .

A. Vowel-stems.

1. Uncontracted, $\lambda\acute{\upsilon}\text{-}\omega$.
2. Contracted, $\tau\iota\mu\acute{\alpha}\text{-}\omega$, $\pi\omicron\iota\acute{\epsilon}\text{-}\omega$, $\delta\omicron\upsilon\lambda\acute{o}\text{-}\omega$.

B. Consonant-stems.

1. Guttural, $\pi\lambda\acute{\epsilon}\kappa\text{-}\omega$, $\acute{\alpha}\gamma\omega$, $\mu\acute{\alpha}\chi\omicron\mu\alpha\iota$.
2. Dental, $\psi\epsilon\acute{\upsilon}\delta\text{-}\omicron\text{-}\mu\alpha\iota$, $\pi\epsilon\acute{\iota}\beta\text{-}\omega$, $\kappa\omicron\mu\acute{\iota}\zeta\text{-}\omega$.
3. Labial, $\pi\acute{\epsilon}\mu\pi\text{-}\omega$, $\lambda\acute{\epsilon}\iota\pi\text{-}\omega$, $\tau\rho\acute{\epsilon}\phi\text{-}\omega$, $\tau\rho\acute{\iota}\beta\text{-}\omega$.
4. Liquid, $\delta\acute{\epsilon}\rho\text{-}\omega$, $\acute{\alpha}\gamma\gamma\acute{\epsilon}\lambda\lambda\text{-}\omega$, $\delta\acute{\epsilon}\mu\text{-}\omega$, $\phi\theta\acute{\iota}\nu\text{-}\omega$.

II. Verbs in MI .

1. Inflections of the Present joined directly to stem: $\phi\eta\text{-}\mu\acute{\iota}$.
2. Present stem formed by adding ν , $\nu\alpha$ to the pure stem; $\delta\epsilon\acute{\iota}\kappa\text{-}\nu\text{-}\mu$, $\sigma\kappa\acute{\iota}\delta\text{-}\nu\eta\text{-}\mu$. (These verbs belong to this conjugation only in respect of the inflection of the Present stem.)

This 2nd principal Conjugation (verbs in $-\mu$) differs from the 1st (verbs in $-\omega$) only in the inflection of the Present and Strong Aorist stems: and here the basis of distinction is the

presence or absence of the 'thematic vowel,' a distinction which appears in the same manner in Sanskrit, e. g. *ās-mi*, *bhar-ā-mi*, compared with *ἔσ-μῑ*, *φέρ-ω(μῑ)*. The inflections of persons themselves are not distinct in the two classes, except so far as the *-μ* verbs retain a fuller and less impaired type of the person-endings—especially in their 'primary form' (see above, p. 161)—and offer greater facilities for tracing the origin of these inflections.

I. Person-endings (Active).

1 *Sing.* : Sanskrit *-mi*, Greek *-μῑ*, from 1st pers. pronominal stem *ma* (weakened as in *mi-hi*, and German *mir*). Secondary form : Sanskrit *-m*, Greek *-ν*, of imperf. and 2 aor. The full termination remains in pres. indic. act. of 'verbs in *-μῑ*;' in certain Homeric conjunctive forms, *ἐθέλω-μῑ*, *εἶπω-μῑ*, etc.; and in optative forms, *τύπτοι-μῑ*, *τύψαι-μῑ*. In Latin it appears as *-m* in two present tenses indic. *sum* and *inquam*, and in the terminations of 1 sing. imp. and plup. indic. and all subjunctive tenses throughout; and in fut. indic. of consonant and *ī*-verbs. It remains also in English *am*, German *bin*.

1 *Plural* : Sanskrit *-mas*, Greek *-μες* (Doric), Latin *-mus*. Person-endings.
1 Plur.

Two explanations (or rather, guesses at explanation) are given for this form, (1) that it = *m + as* of plural nom. (as in *πόδες*, *παδες*) : (2) that it = *ma-si*, i. e. 1st + 2nd pers. pron., so that 'we' = 'I + thou.' A form *-masi* is actually found in Vedic Sanskrit. The ordinary *-μεν* of Attic Greek perhaps arises from *-μες* by loss of *s*, and subsequent addition of *ν*.

1 *Dual* : Sanskrit *-vas*, a variation of nom. plur. *-mas* : cp. *vayām*, nom. pl. of 1st pers. pronoun (p. 144). In Greek the 1 pers. plur. of active forms serves as nom. dual. Lithuanian retains *-va*, e. g. *ės-va* = (*a*)*s-vas*, 1 pers. dual of Sanskrit *as-mi* (*sum*).

2 *Sing.* The 2 pers. pronominal element *tva* (see p. 145), or 2 Sing. by loss of *v* sound *ta*, appears in Indo-European inflection with both consonant and vowel weakened, i. e. *t* by aspiration to *th* or *dh*, or by weakening to *s* (p. 78) and *a* weakened to *i*. The series of possible forms, then, of this suffix is *-ta*, *-tha*, *-thi* (*dhi*), *-si*, *-s*. Of these the last two are most generally found,

Person-
endings.

as primary and secondary forms respectively; thus Sanskrit has in pres. indic. -*si*, in imperfect -*s*; Greek -*σι* (as in *ἔσ-σι*, Ionic for *εῖ*) and -*s* (*ἔφερε-s*). The ordinary termination in -*εις* is variously explained. The primary form is admitted to be e. g. *φέρε-σι*, whence, by simple loss of final *ι*, comes the Doric form in -*ες*, e. g. *συρίσδες* (Theocr. i. 3), *ἀμέλγες* (iv. 3); just as *τίθη-σι* became *τίθης*. Some hold *φέρεις* to arise from raising -*ες* in compensation for the loss of *ι*, the changes being *φέρε-σι*, *φέρες*, *φέρεις*. Others (as Curtius¹) make *φέρει-σι* the middle step, regarding the first *ι* as an 'anticipatory' sound, an echo of the following *ι* of the termination; cp. the subj. forms *φέρης*, *φέρη*, where (says Curtius) there is no other possible explanation of the *ι* subscriptum. Others (as Schleicher) regard the *ι* in *φέρεις* as thrown back from *φέρεσι* (as e. g. in *μέλαινα=μελανα*, *φαίνω=φαν-γω*). In Latin *ēs=es-si* (*ἔσσι*), *ēs* (*edo*)=*ed-si*, *legis=lege-si*. The original quantity seems to have been *legīs*: and as we know that *ī*, *ei* are often interchanged, we may assume *legeis*=Greek *λέγεις*, and accountable for by whatever interpretation we give to the latter. It is worth noticing that in Boeotian Greek (where *es* becomes *ī*) *λέγīs*, *λέγī* are the regular forms.

Changes
of 2 sing.
imper. -*θι*.

The imperative 2 pers. suffix -*θι* (=Sanskrit -*dhi*) is an older form, commoner in Epic dialect (*τέλα-θι*, *δίδω-θι*, *δρνυ-θι*, etc.), but surviving in Attic forms, like *γῶ-θι*, *ἴσ-θι=ἔσ-θι* from stem *es-* or *φιθ-θι* from stem *φιθ* (*θ* assimilated, p. 74), *ῖ-θι*, *σῆ-θι*, and 1 aor. pass. *τράπη-θι*, *τύφθη-τι* (by dissimilation, p. 79). In ordinary Greek this termination is changed in various ways:—

(a.) The vowel is dropped, and *θ* changed into the sibilant, whence *δός*, *θείς*, *σχέις*=*δό-θι*, *σχέ-θι*.

(b.) *θ* is dropped, and the preceding vowel lengthened, whence *ῖστη* (*ῖστα-θι*), *δίδου* (*δίδο-θι*), *δείκνυ* (*δείκνυ-θι*).

(c.) In 2 sing. imper. act. of ordinary conjugation, the termination is lost altogether, and the final -*ε* of *τίπτ-ε*, etc. is the thematic vowel. In 1 aor. imper., instead of an analogous *λύσα* or *λῦσε*, we find *λῦσον*; which Curtius² explains (after Giese,

¹ 'Das Verbum,' pp. 201–205 (1st edition); pp. 139–142 Engl. transl.

² 'Das Verbum,' II. p. 265 (p. 450 Engl. transl.).

Aeol. Dial. p. 110) as the result of a nasal after sound, dulling *a* into *o*. But nothing certain is known about this form. Person-
endings.

In Latin the termination *-dhi* of imperative has disappeared altogether, leaving the bare stem (or stem + connecting vowel), as *i*, *amā*, *es*, *curre*.

The oldest and least corrupt form of this inflection (*-ta*, *-tha*) is retained in the perfect-stem, e. g. Sanskrit *dadi-tha* = Latin *dedisti*; Sanskrit *vāt-tha* (stem *vid-*) = Greek *οἶδα* (stem *ῥιδ*, raised to *ῥοιδ* as Sanskrit *vid* to *vēd*: *οἶδ-θα* becomes by dissimilation *οἰ-θα*). In *οἶδα*, *ῆσθα* the *σ* preceding *θα* is satisfactorily accounted for as part of the stem. But there are a number of other instances (chiefly in the Epic dialect) of *-σθα* as 2 sing. termination, where no such account of *σ* is possible. These are thus enumerated by Curtius ('Das Verbum,' p. 50; English Transl. pp. 34, 35):—

(a) Twelve Homeric subjunctives: *ἐθέλησθα* (Il. i. 554, and fifteen other passages), *εἴπησθα* (xx. 250, Od. xi. 224, xxii. 373), *βάλησθα* (Od. xii. 221), *βουλεύσθα* (Il. i. 99), *δηθύηςσθα* (Od. xii. 121), *εὖδηςσθα* (viii. 445), *ἔχηςσθα* (Il. xix. 180), *ἦσθα* (x. 67), *πάθηςσθα* (xxiv. 551), *παρεξελάσηςσθα* (xxiii. 344), *πίηςσθα* (xxiv. 260), *σπένδηςσθα* (Od. iv. 591).

(b) Five Epic, four Aeolic, one Doric Present Indic., and one Future Indic.: *τίθηςσθα* (Od. ix. 404), *φῆσθα* (Il. xxi. 186), *διδόειςσθα* (Bekker *δίδωσθα*, Il. xix. 270), *εἶσθα* (x. 450); *ἔχεισθα*, *φιλησθα* (Sappho), *ἐθέλεισθα* (Theocr. xxix. 4), *ποθόρηςσθα* (vi. 8), *χρήσθα* (Megarian, in Arist. Ach. 778), *σχήσειςσθα* (Hymn Cer. 366).

(c) Imperfect Indic.: *(ῆσθα)*, *ἔφηςσθα* (Il. i. 397), *ῆειςσθα* (Plato, Euth. 4, Tim. twenty-six in compounds), *ῆδηςσθα* (v. l. *ῆδειςσθα*), Od. xix. 93, and Attic.

(d) Optative: *βάλοισθα* (Il. xv. 571), *κλαίεισθα* (xxiv. 619), *προφύγειςσθα* (Od. xxii. 325), *εἴηςσθα* (Theognis).

Various explanations have been given of these forms:—

(1) Bopp suggested that they were due to a false analogy from *οἶδα*, *ῆσθα*, causing *-σθα* to be regarded as the termination. But we should expect to find the effects of such analogy either in *one* or *two* isolated cases, or carried to a much greater

Person-
endings.

extent, as some hold to be the case with the Teutonic termination *-st* (e. g. German *bist, hast, gib-st*, cp. English *doest*).

This *st-* is held by some philologists (e. g. Schleicher, Comp. § 272) to arise by false analogy (such as that supposed by Bopp for *-σθα*) from the case of dental stems, where *t, d* became *s* before *-ti*, e. g. Gothic *vais-t* (stem *við*) = Greek *four-θα*; this *st-* being first applied to all perfect stems, and then extended to all 2 pers. sing. as in German and English. With this view Bopp's explanation of *-σθα* as given above would of course harmonise; the difference being that the analogy is more consistently and naturally carried out in the Teutonic than in the Greek forms.

(2) The view of the older grammarians, followed by Schleicher (§ 272) and others, is that these forms in *-σθα* are a later formation by the addition of *-ta* to the customary form ending in *s*, e. g. *ἔχουσ-θα, βάλουσ-θα*, etc. Language no doubt offers analogies to such a re-creation of a grammatical form by the fresh addition of an element, which is there already, but obscured (e. g. *τέου-s, μέου-s*, p. 143): and in any case the literary dialect of a nation is formed by the survival of the fittest among a number of spoken forms. It is therefore conceivable that this form in *-σθα* may have been one of such by-forms, holding its ground still in Homer before the introduction of writing, but then disappearing. Nor is it necessary that the explanation of Greek *-σθα* should be uniform with that of Latin *-sti* or Teutonic *-st*, if we suppose that the development in question took place *after* the separation of these different branches of the Indo-European family.

The original 2 sing. element, however, is perfectly recognisable, though weakened, in *ἔχουσ*; and it is not easy to conceive any motive for the addition of *ta*. Moreover, the stage of word-change at which *ta = tva* had sunk to *s* (*ς*) implies that this pronominal element was no longer recognisable in its earlier form; and it is probable that, granting the possibility of such repetition as is assumed, we should not find the repeated ending in so early a form.

(3) Another explanation connects it with the termination

-σαν of 3 pers. plur. (see below, p. 176) by referring it to the root *is*: -σθα would then = *ίσθα*, as -σαν in *ἔδοσαν* = *ἔσαν*(*τ*) = *erant*. The Latin perfect forms *vidi-sti*, *vidi-stis* (*estis*), and *vide-runt* (*sunt*) seem to bear out this view: and it is certainly difficult to lose sight of the similarity between the Latin -*sti* and Greek -σθα, though (as will be seen below) the analogy of the two forms is not certain—one interpretation making the *is* of e. g. *ded-is-ti* a tense suffix as in infin. *is-se*, and perhaps originally a part of the verb *sum*.

(4) Curtius, comparing the form -σθα with the other verb terminations in which we meet with the combination σθ, regards this σθ as the result of phonetic change from an original ττ. The terminations which exhibit σθ are—

| | | |
|-----|------------------|----------------------|
| 1. | 2 Sing. Act. | -σθα (ἔφη-σθα). |
| 2. | 1 Plur. Mid. | -μεσθα (ord. -μεθα). |
| 3. | 2 Plur. „ | -σθε. |
| 4. | 2 Du. „ | -σθον. |
| 5. | 3 Du. „ | -σθον. |
| 6. | 3 Du. „ | -σθην. |
| 7. | 3 Sing. „ Imper. | -σθω. |
| 8. | 3 Plur. „ Imper. | -σθων. |
| 9. | 3 Du. „ Imper. | -σθων. |
| 10. | Infin. „ | -σθαι. |

Certain dialectic forms, e. g. *χρήστω*, *ελέστω* = *χρήσθω*, *ελέσθω* (Locrian), *ἔλεσται* = *ελέσθαι*, *ἄρεσται*, *χρήσται*, etc., seem to show that θ is not an original and necessary part of these terminations, but may arise from an original τ: while such forms as *ἀποφειπάθθω* (Cretan) seem to be a double dental sound, the first of which might become σ by dissimilation. Following up this clue, Curtius explains the Imperative middle forms (7, 8, 9) as arising from ττ which becomes by dissimilation στ, and finally, by the assimilating influence of s on a preceding tenuis, σθ. Thus *φάσθω* = *φά-τ-τω*-(τ), the τ-τω being the 3 personal pronoun added *twice* for expression of middle voice. The Dual forms (5, 6) would arise in the same way, there being no original difference between dual and plural: and so would

Person-
endings.

the 2 pers. forms $-\sigma\theta\epsilon$, $-\sigma\theta\omicron\nu$, the first τ in their case being the t of 2 pers. pronominal stem tva . Thus for seven of the above forms (Nos. 3-9) the successive change $\tau\tau$, $\sigma\tau$, $\sigma\theta$ is established.

For 2 sing. $-\sigma\theta\alpha$ the analogy of the parallel forms $-\sigma\theta\omega$, $-\sigma\tau\omega$, and $-\sigma\theta\alpha\iota$, $-\sigma\tau\alpha\iota$ suggests a parallel form $-\sigma\tau\alpha$, corresponding to the Latin $-sti$; a correspondence which is further borne out by Gothic $saisi\theta-st$, i. e. $sedisti$ (the exact parallel to which would be a form $sesi-sti$, supposing it to exist). Assuming $\sigma\tau$ of $\sigma\tau\alpha$ to arise, as in the other forms, from $\tau\tau$, this $\tau\tau$ may be due to 'progressive assimilation' from tv of the pronominal stem tva (as e. g. $\tau\acute{\epsilon}\rho\tau\alpha\pi\epsilon\varsigma$, cp. with Indo-European $katvaras$); and thus we have tv , $\tau\tau$, $\sigma\tau$, $\sigma\theta$ as the scale of change from tva to $\sigma\theta\alpha$. $\acute{\epsilon}\phi\eta\sigma\theta\alpha$ would thus represent an earlier $\acute{\epsilon}\phi\eta\tau\tau\alpha$, just as $\phi\acute{\alpha}\sigma\theta\omega$ represents $\phi\acute{\alpha}\tau\tau\omega$.

[Where the *data* are so few and uncertain as in the case of this 2 sing. $-\sigma\theta\alpha$ it is difficult to pronounce positively in favour of one among several conflicting theories. The high authority of Curtius claims attention to his view, and it is perhaps based upon wider induction from observed facts than some other views: but Curtius, like others, has to depend upon assumptions at one stage or other of his argument, and our decision will after all be only an estimate of the comparative probability of unverifiable hypotheses. In such cases it seems better simply to call attention to the known facts, and to the most plausible theories that are based upon them, without attempting to lay down that one is right and all the others wrong.]

2 Plur.

2 *Plural*. If 1 plur. $-mas = ma-si$, i. e. $ma-tva$, 'I + thou,' we should expect in 2 plur. a form $=tva-tva$, expressing 'thou + thou.' No such direct evidence as the Vedic $-masi$ of 1 plur. is forthcoming; Sanskrit has only $-tha$ (primary) and $-ta$ (secondary), as in $bh\acute{a}ra-tha$ pres., $abhara-ta$ imperf., while Greek in all tenses has the weakened form $-\tau\epsilon$. But Latin has $-tis$, which may represent $-tas$, i. e. $ta-si$ ('thou + thou'): and Sanskrit in the dual retains a stronger form $thas$. There is therefore evidence for an original $-tas$ or $-thas$, which is susceptible of either of the two explanations offered for 1 plur. $-mas$ (p. 170).

The Latin imper. form *-tote*, however, and Vedic Sanskrit *-tāt*, Person-endings. seem to point to a doubling of the 2 pers. pronoun-stem.

2 *Dual*: Sanskrit *-thas* primary, *-tam* secondary. Greek *-τον* throughout, perhaps formed like *-μεν* of 1 plur. (p. 169) by addition of *-ν*, or corresponding to Sanskrit *-tam*, which *may* be (as explained by Pott) = *tv-am*, *-am* being an appendage as in *aham*, *vayam* (see p. 144, and below on 3 dual).

3 *Sing.* The demonstrative pronominal element *ta-* (in *τό-ν*, 3 Sing. *εὖ-το-ς*, *ἰς-τό*, etc., see p. 150) is weakened to *ti-*; Sanskrit *as-ti*, Greek *ἐσ-τί*, *τίθη-τι* (Doric). This *τι* becomes *-σι* in *τίθη-σι*, *φησί*, etc., by the usual assibilation of *τ* before *ι* (as in *πλούτος*, *πλούσιος*; *ἐνιαυτός*, *ἐνιαύσιος*)¹. *-σι* is also retained in a number of conjunctive forms in Homer—*ἔθελῃσι*, *εἴπησι*, *πάθῃσι*, etc., and in a few used by later writers—e.g. *πιμπλῇσι* Hesiod, Op. 301, *ἰῇσι* Theognis, *ὑποπιμπρῇσι* Arist. Lys. 348, *ὀρσῇσι* Apoll. Rhod. iii. 1039: so *παραφθαίῃσι*, optat., in Il. x. 346.

The ordinary 3 sing. termination in *-ει* is sometimes explained as arising e.g. from *φέρε-σι* = original *φέρε-τι* by loss of *σ* between two vowels. But it seems better to explain it on the analogy of 2 sing. in *-εις*, by one or other of the processes mentioned on p. 170, *φέρε-τι* becoming *φέρεϊτ*, and *τ* then falling off, as an inadmissible final sound. This would throw light on the original quantity of such forms as *legit*, *regit* in Latin, if we suppose an original *lege-ti*, *legeit*, *legit*. In any case the final *-t* of Latin 3 sing. is the secondary form of *-ti*; Latin thus retaining the inflection consistently in all tenses, while Greek has lost it from the ordinary conjugation of verbs, except in *-τω* of imper., Latin *-tō*. Oscan has *-tūd*, and Vedic Sanskrit *-tāt* (see above on 2 plural), which point to a repetition of the pronominal element. [The *t* of 3 sing. inflection survives as *s* or *th* in English, *he carries*, *carrieth*; as *t* in German *ist*.]

3 *Plur.*: Sanskrit *-nti*, *-n*; Greek *-ντι* (Doric), *-ν*; Latin 3 Plur. *-nt*.

Thus, primary, *bharanti*, *φέρουντι*, *ferunt*.

secondary, *abharan*, *ἔφερον*, *ferebant*.

¹ See above, ch. iv. p. 78.

Person-
endings.

In Greek the termination appears only in Doric ἐντί, φέροντι, etc. In Attic Greek τ becomes σ, ν disappears, and the vowel is raised; so φέρ-ο-ντι becomes φέρουσι. An old inscription of Tegea (Arcadian) gives the forms κρίνωνσι, κελεύωνσι, which appear to be a transition stage between -οντι and -ουσι. The Lesbian dialect has σι with ι before it in place of ν; φαῖσι, κρύπτουσι, etc.: so φορέουσι in Theocr. xxviii. 11 (an Aeolic poem). Latin retains throughout the stronger form (see above, p. 17).

The imperative 3 plur. in both Greek and Latin exhibits peculiar forms: φερ-δ-ντω-ν (Doric φερόντω, Latin *ferunto*) seems to = Vedic Sanskrit -ntāt (t lost and ν added), and to correspond to Sanskrit -ntu of 3 plur. imper. The other Greek form -τωσαν is a later formation, unknown to Homer: it is e.g. 3 sing. φερέτω + σαν = σαντ, the remains of 3 plur. of εἶμι (*asmi*), *asanti* (p. 17). This -σαν is also used to form a later 3 plur. opt. ἵσταίν-σαν, and appears in its primary form in 3 plur. perf. act., e.g. ἴσασι = ἴδ-σαντι.

[There is no evidence here for a formation analogous to that assumed for 1 and 2 plur., so that 'they' = 'he + he:' and all that we can say is that -τι probably represents the demonstrative pronoun -ta (as in 3 sing.), and that the element *an* or *n* in some way or other may give the notion of plurality.]

3 Dual.

3 *Dual*: Sanskrit has primary -tas, secondary -tām; Greek -των is primary = -ta(s) + ν; -την secondary = -tām. Thus bhāratas (pres.) = φέρετον, ābharatām (imp.) = ἐφερέ-την; -των of 3 dual imper. also = -tām, and so = -την.

[-tas might be explained as = -ta, -sa (cp. -thas of 2 plur., p. 174); -tām may be (as Pott) = ta + am, a pronominal appendage (see above on 2 dual).]

Middle and Passive Inflections.

Middle or
Reflexive
forms in
relation to
Passive.

The name 'Middle' voice, as applied to the Conjugation of Greek Verbs, conveys no notion of the real distinction of Middle forms, viz. their *reflexive* character, expressing the effect of the action of the verb upon the subject and not (as in the 'Active' forms) upon an external object. The term 'Middle,' implying something between the Active and Passive Voices, would naturally suggest that these latter are the original, the

Middle a later development of language: whereas it has been established with tolerable certainty that language has generally developed the Passive from the Middle Voice in Verbs. In Sanskrit, for example, we find belonging to each tense two distinct sets of verbal terminations, corresponding (as we shall see) to the Active and Middle forms of Greek; but both *active*, and sometimes applied indiscriminately to transitive verbs. These are called respectively (1) '*Parasmai-pada*,' 'word¹ directed to another,' because the action passes (*parasmai*) to another object (cp. the term 'transitive' from *transire*); and (2) '*Ātmanē-pada*,' 'word directed to oneself,' because the action is restricted *ātmanē*, 'to oneself' (dat. sing. of *ātman*, 'self'). These two schemes of terminations partly answer to the 'active' and 'middle' voice of Greek Grammar. Thus, when a verb is conjugated in both *padas*, '*Ātmanē-pada*' does not alter the idea expressed by the root, but directs the action in some way towards the agent or subject: e.g. *pacati*, 'he cooks,' *pacate*, 'he cooks for himself;' *namati*, 'he bends,' *namate*, 'he bends himself.'

Passive verbs in Sanskrit are conjugated in *Ātmanē-pada*. But while in Greek and Latin a verb in the Passive voice corresponds in form to the same verb in the Active voice, the terminations only being changed; in Sanskrit a passive verb is a separate derivative from the root (as e.g. causal desiderative or frequentative verbs are) formed on one invariable principle without any necessary connection with the conjugational structure of the active verb, but using the *Ātmanē-pada* terminations, e.g. *bhār-a-ti* (*φέρεi*), *bhār-a-te* (*φέρεται*, middle); but *bhri-ya-te* (*φέρεται*, pass.) by insertion of the stem suffix *ya*².

The evidence of the Sanskrit Verb, in addition to the obvious fact that in Latin but one form serves for Middle and Passive, while in Greek (though there are some special Passive forms)

¹ *Pada* = an inflected word as opposed to the uninflected root. The term refers only to a scheme of terminations, and does not necessarily carry with it the associations of 'voice' in the ordinary grammatical use of that term.

² See Monier Williams' 'Sanskrit Grammar,' §§ 243 b, 461.

the same form serves for both in certain tenses, supports the conclusion that the original distinction is between 'Active' and 'Reflexive' terminations; but we may speak of these later under the currently accepted terms of 'Middle' (or Medio-Passive) inflections.

Middle
(Passive)
forms in
Latin.

The Middle or so-called 'Passive' Inflections of the Latin verb may be considered first, not as being older, but as (according to one commonly received theory of their formation) exhibiting most distinctly this reflexive character. This theory accounts for the characteristic *r* of passive terminations by the addition to the Active forms of the reflexive pronoun *se*, the *s* of which passes by the euphonic laws of Latin into *r*. Thus to take the Present Tense:—

1 Sing.: *amo-se, amore, amor.*

2 Sing.: *amasi-se, amarise, amaris* (or possibly, by introduction of a connecting vowel, from the ordinary *amas, amas-u-se, amasus, amaris*. See on 3 sing. and cp. a form *utarus = utaris* on an inscription).

3 Sing.: *amat-u-se, amatur* (*u* being perhaps a connecting vowel).

1 Plur.: *amamu(s)-se, amamur* (or ? *amamus-u-se, amamur-ure, amamur*).

2 Plur.: *amamini* (sc. *estis*) is really a nom. plur. of a participle formation analogous to Greek *-μενο-*, the singular of which is found in Old Latin for 2 and 3 pers. imper. *prae-famino, progredimino* (i. e. *prae-famino sis*). The formation of *amamini (estis)* is therefore precisely analogous to that of the perf. pass. *amatus sum, es, est*, etc. The form *amaminor* (2 plur. imper.) given in grammars is probably due to false analogy, *r* being added as the characteristic passive sign: and is supposed by some to have had no existence except with the grammarians.

3 Plur.: *amant-u-se, amantur.*

So far as the Latin language is concerned this explanation might hold good, in default of a better: but it is somewhat shaken by the existence in Keltic of passive forms in *-r*, which by the euphonic laws of that language could not arise from *s*. A theory which fails to satisfy the only available test of the

comparative method does not rest on firm ground: and the *-r* of Latin passive forms still awaits explanation.

The Middle Inflections in Greek have more affinity with those of Sanskrit, and the explanations offered of both rest upon much less sure ground than that given of the Latin medio-passive. Like the active person-endings they are capable of a primary and a secondary form (*-μαι, -σαι, -ται, etc., pres. -μην, -σο, -το, etc. imperf.*); and these are obviously formed by some increase of or addition to the corresponding active terminations. But as to what the precise connection is, 'Grammatici certant et adhuc sub iudice lis est.' I give some of the solutions that have been proposed: but the question cannot be determined with any certainty.

Middle and Passive inflections in Greek. Theories of their connection with Active forms.

1. That in *-μαι, -σαι, -ται, etc.* we have a similar formation to that of the Latin Passive—viz. the addition of the reflexive pronoun (*-sua*) to the pronominal elements from which the active person-endings arise. This *-sua*, Greek *-σφε, -σε* or *-σι*, would if thus suffixed give such forms as *ma-si, sa-si, ta-si, nta-si*, and the falling out of *s* between two vowels in Greek (p. 66) would leave the Greek *-μαι, -σαι, -ται, -νται*. The chief argument for this view, that it harmonises the apparently distinct formations in Latin and Greek, falls through if that of the Latin passive can no longer be regarded as even approximately certain. Most comparative grammarians uphold one of the two remaining theories, viz.—

Theories of their formation.

2. That *-μαι, -σαι, -ται, etc.* are formed from the active voice by Vowel Intensification (see p. 53), *ai*, Sanskrit *ê*, being the natural raising or intensification of *i* to express a change of meaning. The objection to this view is that we find Vowel Intensification employed in the formation of stems, as an agent in Word Formation, but not in Inflection, which in all cases consists in the addition of suffixes.

3. That *-μαι, -σαι, -ται, etc.* are abbreviations from *ma-mi, sa-si, ta-ti, etc.*, i. e. that language expressed the 'reflection' of the action upon the agent by adding the pronouns *twice over* to the verbal stem, once as object case and once as nominative. Against this view it is urged (1) that, if in the doubling

Middle
(Passive)
Inflections
in Greek.

of pronominal elements in the plural of active inflections (see above, p. 169) both elements remained, so to speak, in the *nominative* case (e.g. *mas*=*ego*+*tu*), it is inconsistent that precisely the same phenomenon in the middle voice should give the different result of *me* (*mihi*)+*ego*. [But this difficulty is less, if we bear in mind that the formation of the active inflections may have taken place at a different and much earlier stage in the development of language. The same elements may have combined in different ways at different periods—in different strata or layers, so to speak, of word formation.] (2) that if *-mai*, *-σαι*, *-ται* are explained in this way, we ought to find similar forms in the plural (= *mas-mas*, *thas-thas*, etc); (3) that while the dropping out of *s* and *t* supposed by this theory in 2 and 3 pers. may be justified by phonetic analogy, that of *m* in 1 pers. *ma(m)i* cannot be so justified. [It is, however, parallel to Sanskrit *bharē*=*bhar-a-mē* (*mai*) compared with *φέρ-ο-μαι*.]

Upon the whole, this latter theory meets with most favour, being adopted by both Bopp and Schleicher, and now by Curtius, who in *Das Verbum* (p. 80) retracts the opposition which he offered to it in *Tempora und Modi*. We may therefore adopt it as *presumably* the correct account of the Greek middle inflections, or at any rate the best 'working hypothesis' for deducing an explanation of them; so far as such enquiries (which many philologists seem now inclined to pass by as unproductive) are an essential part of philology.

The middle Inflections of the Greek Verbs will then be as follows:—

1 *Sing.*: Primary form, *ma-mi*, *mai*, Greek *-μαι*, Sanskrit *ē*. [In Sanskrit the initial *m* disappears, and we find *bharē*=*bhar-a-mē*=*φέρομαι*.] Secondary *mam*, Greek *-μην* of imperf. mid. Sanskrit has *ē* as in primary form; *abharē*=*εφερόμην*.

2 *Sing.*: Primary form, *-sa-si*, *-sai*, Sanskrit *-se*. In Greek *-σαι* is retained in verbs in *-μι* and perf. tense; *ἴστα-σαι*, *τέτυψαι* (*π-σαι*). Epic forms like *λαλαΐσαι*, *δίξαι* (Od. xi. 100), *ἔρηαι* (Od. xiv. 343) have only lost the initial *σ*; *-σαι* being contracted into *-αι*, as in *φέρει*=*φέρει(σ)αι*, or into *-η*, as in *φέρη*.

Secondary form *-sas*, *-sa*, Greek *-σο*, retained in imperf. of

-μ verbs (ἰρίθεσο) and plup. tense ἰρένυτο (π-σο). Epic forms with loss of σ only—ἐμάρναο, παρίστω, ἔθεο, etc.; cp. the forms ὄρσο, δέξο, λέξο, etc. In ordinary Greek ε(σ)ο becomes -ου, ἐφέρου=ἐφέρεσο: so in 2 aor. of -μ verbs, ἔθου, ἔδου and imper. δοῦ, δοῦ.

Middle
(Passive)
Inflections
in Greek.

3 *Sing.*: Primary form, -*ta-ti*, -*tai*, Sanskrit -*tā*, Greek -*rai* retained throughout. Secondary, -*ta-t*, -*ta*, Greek -*to* (ἐφέπετο, Sanskrit a-bhara-ta). In the imperative we find -*σθα*, a form which recalls the -*σθα* of 2 sing. act., and other forms (see p. 172) and the explanation of which is equally uncertain. The most plausible suggestion is that it may arise from -*ττω* (representing -*τω* of 3 sing. imper. act. doubled), ττ becoming στ by dissimilation (p. 79), and then σθ under the influence of the spirant. See however, above, on -*σθα* of 2 sing. act.

In the Plural terminations it is still less easy to arrive at even a plausible suggestion for their origin: and for 1 and 2 plur. especially, such suggestions are but guesses.

1 *Plur.* Greek has -*μεθα* both as primary and secondary form, with a variety in -*μεσθα*, found in Homer and later poets, but not in Attic prose, and possibly a mere phonetic variation *metri gratia*; for in a majority of cases the form -*μεθα* would not scan. Others however see in -*μεσθα* the form -*σθα* of 2 sing. act.; and on Curtius' view that σθ here arises from *tw*, -*μεσθα* would represent *ma-twa-i*. Sanskrit has for primary form *mahe*, Zend *maidē*, which points to a primary form *madhai*, secondary -*madha*, whence Greek -*μεθα*. It is suggested that *madhai*=*ma-twa(s)i*, *mata(s)i*=‘I+thou, to thee’ (the reflection of the action being in this case expressed by the repetition of one of the two elements ‘I,’ ‘thou,’ which make up the 1 plur. act.) This would make -*μεθα*=-*μεσθα*.

2 *Plur.* Greek has -*σθε* both as primary and secondary form. Sanskrit has -*dhvē* (primary), Vedic -*dhvai* and -*dhvam* (secondary, m being perhaps a later addition), a Vedic imper. in -*dhva* being found. s often disappears in Sanskrit before dh: hence we may infer an original -*sdhvai*, -*sdhva*, the Greek equivalents to which would be -*σθFai*, -*σθFε*. This reconciles the Sanskrit and Greek forms, and Curtius' explanation of σθ as

Middle
(Passive)
Inflections.

arising from $\tau\tau$ (above, p. 173) presumably covers *sdh* also: but the origin of this termination also is uncertain. A similar suggestion to that given above for 1 plur. is made, viz. that *sdhvai*, $\sigma\theta\epsilon = tva-tva-(tv)i$, 'thou + thou, to thee.'

3 *Plur.* Sanskrit primary *-nte*, secondary *-nta*, corresponding to Greek *-νται*, *-ντο*, which in Homeric Greek are replaced by *-αται*, *-ατο*, generally after consonants and *ι*, sometimes after *υ*, *η*, *ω*, never after *α*¹. Assuming the original form to be *an-ta-ti*, the loss of the second *t* (due perhaps to dislike of excessive alliteration) leaves *antai*; and the further loss now of *a*, now of *u*, in the syllable *an* would leave either *-ntai* or *atai*. Both forms are found in Sanskrit; *-nte*, *-nta* in the first main conjugation corresponding to Greek verbs in *-ω* (*bhara-nte*, *abhara-nta* = $\phi\acute{\epsilon}\rho\omicron\nu\tau\alpha\iota$, $\acute{\epsilon}\phi\acute{\epsilon}\rho\omicron\nu\tau\omicron$), and *atē*, *ata* in the second (*chin-date*, *nohindata*).

According to this view the *a* of *-αται*, *-ατο* is not a substitute for *ν* (as might be thought from its occurrence after vowels in such forms as *βεβλήαται* parallel to *βέβληνται*), but an original component of the termination. Practically, however, in both Sanskrit and Homeric Greek *-ntē*, *-ate*, and *-νται*, *-αται*, are separate and corresponding forms, the latter being the non-thematic ending; so that it is not incorrect to say that e.g. in *τετεύχαται*, *βεβλή-ατο*, the *a* 'corresponds to' the *ν* of *πείθο-νται*, *ἐγένο-ντο*.

The imperative termination *-σθων* follows the analogy of other similar forms; *-σθω-σαν* being a later formation analogous to *-τω-σαν* of imperat. act. (see p. 176).

1 *Dual*: *-μεθον* must be a by-form of 1 plur. *-μεθα*, transferred perhaps by local usage, and with some reference to *-ον* of other dual forms, to the plural. An Aeolic form *-μεθεν* is also mentioned. [Sanskrit has *vahe* = *vahai* (primary), and *vahi* = *vaha* (secondary).]

2 and 3 *Dual*: *-σθον*, *-σθην*, and imperat. *-σθων* obviously correspond to the act. forms *-τον*, *-την*, *-των*, as *-σθω* of 3 sing.

¹ E.g. *τετεύχαται*, *ἐρηπείδατο*, *κατακείαται*, *γενόατο*, *εἰρύαται*, *εἰρύατο*, *βεβλήαται*, *δεδμήατο*, etc.; and (with long vowel shortened before *a*—as often in New Ionic) *ἔαται*, *ἔατο*, *κῆαται*, *κῆατο*. See Curtius, 'Das Verbum,' I. pp. 92-7 (Engl. transl. pp. 64-7).

imperat. mid. to $\tau\omega$ (see above, p. 181). In all these forms the change from τ to $\sigma\theta$ seems to carry with it the reflexive meaning: for a possible explanation see above, p. 173, on $\sigma\theta\alpha$ of 2 sing. Middle
(Passive)
Inflections.

II. Verb Inflection: Mood-signs.

The function of signs of mood and their position in Verb Inflection have already been noticed (p. 161). We have now to distinguish the signs for (a) 'Conjunctive,' (b) 'Optative' tenses: these two groups of tenses being included under the general term 'Subjunctive (Dependent or Hypothetical) Mood,' by which the supposition of a fact or action is distinguished from its direct statement in the 'Indicative Mood.' Mood-signs.

(a) The special characteristic of the conjunctive forms in classical Greek and Latin appears to be a long vowel (ω , η , $\bar{\alpha}$, $\bar{\epsilon}$) preceding the termination. We find however in Homer a limited number of conjunctive forms¹, such as $\tilde{\iota}\sigma\mu\epsilon\nu$, $\beta\lambda\eta\epsilon\tau\alpha\iota$, $\sigma\tau\eta\sigma\mu\epsilon\nu$, $\phi\theta\iota\epsilon\tau\alpha\iota$, $\delta\lambda\epsilon\tau\alpha\iota$ (conj. of $\delta\lambda\tau\omicron$), in which a short vowel σ , ϵ (i. e. original $\bar{\alpha}$) denotes the modal element: and the comparison of these with a conjunctive form occurring in Vedic Sanskrit (e. g. *han-a-ti*, indic. *han-ti*; *as-a-ti*, indic. *as-ti*, from *asmi*, *sum*), points to the conclusion that originally the conjunctive was distinguished from the indicative by the insertion or addition to the stem of $\bar{\alpha}$ —in precisely the same way, externally, as the indicative with a thematic vowel from the primitive indicative, so that conj. *as-a-ti* : indic. *as-ti* : : indic. *bhar-a-ti* : indic. *bharti*, Latin *fer-t(i)*. And as there is always a possibility that formations outwardly similar may have been originally one and the same, we may perhaps consider with Curtius that the thematic vowel $\bar{\alpha}$ and the conjunctive suffix originally served the same purpose; and that as *bhara-ti*, i. e. 'bearer he' (see above, p. 166), developed on the one hand the meaning of 'he is a bearer,' 'he bears,' so on the other hand it might develop the meaning 'he may be, or is to be, a bearer,' 'he is intended for bearing'—i. e. the force of a conjunctive. This however is speculation. The facts to be considered are (1) the highly probable fact that the conjunctive suffix was

¹ Curtius, 'Das Verbum,' II. p. 58 (Engl. transl. p. 313).

Mood-signs. originally α (α , ϵ); (2) the certain fact that, with a few exceptions already mentioned, it appears as $\bar{\alpha}$ (ω , η , $\bar{\alpha}$, $\bar{\epsilon}$). Now in the ordinary conjugation of Greek verbs this long vowel seems naturally accounted for by the combination of the mood-sign with the 'thematic' vowel at the end of the stem; these two uses of the vowel α , whether originally identical or not, having of course become distinct with the development of verb-forms. But in the conjugation of verbs in $-\mu$ no thematic vowel is used (p. 168-9), and here the long vowel is most plausibly explained as the result of analogy, ω , η being regarded as the characteristic mood-signs. Thus from $\epsilon\mu\acute{\iota}=\epsilon\sigma-\mu\acute{\iota}$ we have in conjunctive:—

- 1 Sing. $\epsilon\sigma-\omega-\mu\acute{\iota}$, $\epsilon\sigma\omega$, $\epsilon\omega$, $\bar{\omega}$,
- 2 „ $\epsilon\sigma-\eta-\sigma\acute{\iota}$, $\epsilon\sigma\eta\varsigma$, $\epsilon\eta\varsigma$, $\bar{\eta}\varsigma$,
- 3 „ $\epsilon\sigma-\eta-\tau\acute{\iota}$, $\epsilon\eta\tau\iota$, $\epsilon\eta\sigma\iota$, $\epsilon\eta$, $\bar{\eta}$,
- 3 Plur. $\epsilon\sigma-\bar{\omega}-\nu\tau\iota$, $\epsilon\bar{\omega}\nu\tau\iota$ (Dor.), $\epsilon\omega\sigma\iota$, $\bar{\omega}\sigma\iota$,

following the analogy of the ordinary conjugation.

In Latin.

In Latin, the conjunctive suffix $\bar{\alpha}$, answering to Greek ω , η , appears in the pres. subj. of 2nd, 3rd, and 4th conjugations (consonant and $\bar{\epsilon}$ and $\bar{\imath}$ stems); e.g. *monē-ā-m*, *leg-a-mus* (= $\lambda\acute{\epsilon}\gamma-\omega\mu\epsilon\varsigma$), *leg-a-tis* (= $\lambda\acute{\epsilon}\gamma-\eta-\tau\epsilon$), *audi-a-m*. In a -stems (1st conj.) the mood sign is $\bar{\epsilon}$ (*am-e-m*) and a few verbs have \imath , e.g. *sim*, *nolim*, *possim*, *edim*, *duim*: but this $\bar{\epsilon}$ and $\bar{\imath}$ are both probably optative forms (see below, p. 187). The imperf. and plup. subj. in all verbs have $\bar{\epsilon}$ as mood-sign; *amar-ē-mus*, *regiss-e-mus*. The perfect has originally $\bar{\imath}$, which however (from confusion with the completed future indic.) often becomes \imath in dactylic poetry: just as in the completed or 2nd fut. indic. \imath is often treated as $\bar{\imath}$. Thus we find—

- Perf. Subj. -*erī*: *dederitis* (Ennius), *fuēris* (Horace), *respuēris* (Tib.),
 dederis, *orelīderis* (Ovid).
 -*erī*: *egerīmus*, *respuēris* (Virg.), *dixeris* (Hor. in
 hexameters *suspuēris*).
 2nd Fut. Indic. -*erī*: *viderīmus* (Lucretius), *dixeritis* (Ovid), (Virg.
 Georg. iv. 59).
 -*erī*: *dederitis*, *transieritis*, etc. (Ovid), *fecerīmus* (Catullus),
 dederis, *miscueris*, etc. (Hor. in hex.), *dederis* (freq.
 in Prop. and Ovid).

[As in Latin the conjunctive and optative coalesce into one

subjunctive Mood, we might expect a mixture of conj. and Mood-signs. opt., forms such as we actually find. Roby (Lat. Gr. i. § 593) suggests that the proper Latin mood-suffix was *i* (seen in the Greek optative), which contracted with a preceding *ā* to *ē* e. g. *ama-s*, *ama-i-s*, *amēs*; but as *i* suffixed to the present indic. of any other than *ā* verbs would give the same form when contracted, an *ā* (seen in Greek conj.) was substituted. This, however, would not be true of consonant stems proper, where there was no opportunity for contraction, e. g. *leg-o*, *le-gi-m*: and it would have to be supposed that the *ā* form was extended by analogy to these. On the whole it seems best to admit the confusion of forms, and explain each separately, without reducing them to uniformity.]

(b) Optative. The suffix is *ya* (retained in λέγο-ι-εν), usually raised to *yā*, or *i*: in Greek, *ι*, *η*, *ι*. The verbs in -*μι* retain the longer form of the suffix (*ιη*) in the Active Voice, the shorter (*ι*) in the Middle, e. g. :—

| | | | |
|---------|-------------|---------------|-------------|
| 1 Sing. | ἰδο-ίη-ν | compared with | ἰδο-ί-μην |
| 2 " | ἰδο-ίη-ς | " | ἰδο-ί-ι(σ)ο |
| 2 " | ἰδο-ίη | " | ἰδο-ί-το |
| 3 Plur. | ἰδο-ίεν-ν | " | ἰδο-ί-ντο |
| | =ἰδο-ί-εντ. | | |

Verbs of the ordinary conjugation have the shorter form of the suffix, which coalesces with the preceding *o* (whether this be regarded as thematic vowel or an addition to the stem, assimilating all stems to *a* stems, makes no difference here) into the diphthong *oi*, e. g. φέροι-μι, τύπτο-ι-μι. In 3 plur., however (as with -*μι* verbs), the longer form is retained in its most primitive shape (*ι*=*yā*), e. g. φέρο-ι-εν, τύπτ-ο-ι-εν. With the longer form of suffix the secondary, with the shorter form the primary person-endings are found. 'Contracted' verbs in -*ω* employ both forms of the mood-sign with corresponding variety of person-endings: thus from τιμάω (=τιμάο-μι) we find pres. opt. τιμάο-ι-μι, τιμῶμι, and τιμαο-ίη-ν, τιμῶην.

The strong (2nd) aor. opt. is formed like the present opt.: e. g. δο-ίη-ν, δο-ί-μην, τύπ-ο-ι-μι, etc. (present, διδοίην, διδοίμην, τύπτοιμι).

Mood-signs. The weak (1st) aor. employs *ι* as mood-sign, retaining its characteristic stem-letter *α*, λύσα-ι-μ, λύσα-ι-μν.

The passive aor. employs *ιη* as mood-sign with secondary person-endings, λυθε-ιη-ν, τυπε-ιη-ν.

Optative
forms in
Latin.

Optative forms are traceable here and there in the Latin verb. Compare for example the parallel forms of pres. opt. from root *as* (*es*, *es*) in Sanskrit, Greek, and Latin:—

| | | | |
|----------------------------|--|--------------------|-------|
| 1 Sing. s-yā-m (= as-ya-m) | είην (= ἐσ-ιη-ν) | s-iē-m (= es-ie-m) | sim |
| 2 „ s-yā-s | είης (= ἐσ-ιη-ς) | s-iē-s (= es-iē-s) | sis |
| 3 „ s-yā-t | είη (= ἐσ-ιη-τ) | s-iē-t (= es-iē-t) | sit |
| 1 Dual s-yā-va | | | |
| 2 „ s-yā-tam | είη-τον, είτρον | | |
| 3 „ s-yā-tām | είητην, είτην | | |
| 1 Plur. s-yā-ma | είημεν, είμεν | | sīmus |
| 2 „ s-yā-ta | είητε, είτε | | sītis |
| 3 „ s-yus | είεν (= ἐσ-ι-εντ) s-ie-nt (= es-ie-nt) | | sint |
| | [είη-σαν a later form, see p. 176.] | | |

The evident correspondence of this old Latin form *sīem*, later *sim*, with the parallel optatives of the Sanskrit and Greek verbs, is irresistible evidence that in other so-called conjunctive forms in *-im*, *-is*, *-it*, we have *optative* formations. Thus *velim* = *vel-ie-m*, *duim* (common in Plaut. and Ter. and in old legal language, cp. *Di te perduint* used by Cicero) = *daim* = *da-ie-m*, which corresponds to Greek δο-ιη-ν, and to a (Vedic) Sanskrit form *de-yā-m*¹. So *edim* from *edo* (Hor. Epod. iii. 3; Sat. II. viii. 90²): *temperint*, *coquint* (XII Tab.).

There is also reason for supposing that the subjunctive present of *a* stems, in which *e* is the characteristic letter, is an optative form. Beside *stet* is found Oscan *sta-it* = Greek στα-ιη-(τ), which points to *sta-ie-t*, *sta-ī-t*, as the origin of the Latin form. Thus *amem* = *ama-i-m* = *ama-ie-m*: cp. Umbrian *porta-ia(i)* = *portet*, and Greek τυπα-ο-ιην, τυμήην.

The 'future indicative' of consonant-stems (3rd conjugation) in *-em*, *-es*, *-et* appears also to be an optative form, e.g. *dicem*

¹ Curtius quotes also the Vedic forms *de-yā-m* = *do-ιη-ν*, *dhā-yā-m* = *de-ιη-ν*, *jñā-yā-s* = *γνο-ιη-ς*. 'Das Verbum,' II. p. 82 (Engl. transl. p. 329).

² In Virg. Aen. xii. 801, 'Ne te tantus edit tacitum dolor,' Ribbeck's correction, *edit*, is accepted by Conington: Forbiger, Gossrau, Heyne, Wagner, and others, retain *edat*. See Conington's note, *ad loc.*

=*deicai-m*: *a* being here the vowel which in Greek appears Optative forms in Latin.
as *o* (see pp. 36, 54), as in *φέρω-ι-μ*, *τίπτο-ι-μ*. Thus we have

| | | |
|---------------------------|-------------------------------|--------------------------------|
| Skt. <i>bhara-i-ma(s)</i> | Gk. <i>φέρω-ι-μ</i> <i>ες</i> | Lat. <i>fera-i-mus</i> |
| <i>bhar-ē-ma</i> | <i>φέροι-μεν</i> | <i>ferē-mus</i> ¹ . |

III. Tense-stems.

These have been briefly classified above (p. 162), and we may proceed to discuss them in the order there observed.

1. Perfect-stem:—

The most characteristic feature of the Perfect-stem in Indo-European languages is Reduplication, i. e. doubling the verbal root. The force of the Perfect Tense is to express *completed action*; and for this purpose language seems to have availed itself of the same means or instrument, by which (as we have noticed above, p. 52) frequentative and desiderative verbs are often formed, and any strengthening of the idea of a word is expressed. The earliest conceivable form would be a simple repetition of the root, with a further root indicating the subject, —*vid vid ma*. The 'agglutinative' stage of language would give *vidvidma*; and the inflectional stage is marked by frequently raising the vowel of the second root and shortening the first by loss of its final letter, e. g. *vivaidma*; the process which is seen in so many Greek perfects, e. g. *λέλοιπα* (stem *λεπ-*), *πέποιθα* (*πιθ-*), etc.

It is indeed not improbable that the Perfect may have been a development from the reduplicated present with an intensive meaning. It has the primary person-endings and no augment: its distinctive feature, reduplication, is employed in the formation of certain present-stems; and in Vedic Sanskrit, the oldest accessible type of Indo-European language, the distinction in meaning between 'intensive' present and perfect is slight and fluctuating. These facts certainly point to a closer connection between the present and perfect formations than appears in later developments of Indo-European speech, and perhaps indicate that the perfect, so far from necessarily implying *past* or *completed* action, was at first a reduplicated present with an intensive meaning,

¹ The following forms are cited from Zend:—*apa-barois* = *ἀποφέρω* = *au-ferēs* (*ab-fera-is*); *bara-yen* = *φέρω-ιεν(τ)* = *ferēnt* (*fera-nti*).

Perfect-stem.

which became by degrees an independent member in the system of verbal forms, with a distinctive stamp of its own¹.

The phenomena of Homeric Greek bear out this view². The store of perfects in Homer is scanty as compared with Attic writers: the form in -κα (see below, pp. 193-4) is only just beginning, while the aspirated form (-φα) does not exist: and the meaning is generally nearer that of the present than of the 'perfect' proper. Thus e.g. ἔμμορε (Od. xi. 337) is not 'has divided,' but 'has his share;,' εἰρύαται (Od. vi. 265) not 'have saved' but 'keep safe;,' προβέβουλα = 'I prefer,'—and so on. Many Homeric perfects again express *states* of mind or body—κέκμηκα, ἔρριγε, ὄρωρε, σέσηπε, ἔσσουμαι, πεφυζότες, etc.; or sustained sounds, cries, etc., e.g. γέγωνε, βέβρυχε, κεκλήγως. Traces of this earlier meaning survive in Attic Greek in the 'perfects with present force'—ἔστηκα, ἔγνωκα, γέγηθα, κέκτημαι, μέμνημαι, etc.: while in the New Testament, forms like ἤλπικα, θαύμακα express a state of feeling, and are often best represented by a present³.

Greek Perfect.

In the form of its perfect-stem, and by the almost universal employment of reduplication, Greek shows evidence of greater antiquity than Latin; which, as we shall see below, forms its perfect-stem in four or five different ways (by reduplication least of all). Reduplication, especially, gives to the Greek perfect-stem, in spite of differences in the mode of formation, a unity which it is vain to look for in Latin.

The reduplicated syllable.

The reduplicated syllable usually contains the initial letter of the root with the vowel ε, representing original α, the commonest root-vowel. Apparent exceptions are due to the phonetic tendency towards easier articulation: thus an aspirate is represented by a corresponding tenuis; πέφηνα (φαν-), cp. τίθημι; while of two initial consonants only one is repeated, and that only when it is a mute followed by λ, μ, ν, ρ, e.g. γέγραφα, πέπληγα (πλαγ-), πέπνευκα (πνυ-). [Exceptions are γν, γλ, and sometimes

¹ Curtius, 'Das Verbum,' II. 121 (Engl. transl. 355).

² For fuller particulars, see Monro, 'Homeric Grammar,' § 28.

³ Thus in John v. 45, ἔστιν ὁ κατηγορῶν ὑμῶν, Μωσῆς, εἰς ὃν ὑμεῖς ἠλπίζετε, the appeal is to a *present* state of hope or trust: and the Authorized Version 'in whom ye trust' need not have been altered by the Revisers to 'on whom ye have set your hope.'

βλ—*ἔ-γνω-κα*, *ἔ-βλάστη-κα*: and on the other hand the stems *κρα* and *μνα* have *κέ-κτη-μαι*, *μέ-μνημαι*. In *πέπτωκα* an *ε* has fallen out between *πτ*.] Greek Perfect.

In all cases but those specified, a stem beginning with two consonants has only *ε* for its reduplication,—*ἔκτονα*, *ἔζήτηκα*, etc. The similarity of sound with the augment (p. 163) which is thus occasioned is, of course, purely accidental: and it is incorrect to say that any verb forms its perfect 'by prefixing the augment.'

Initial vowels are lengthened, as *ὀρθό-ω*, *ὄρθωκα*: but some stems with initial *α*, *ε*, *ο*, take 'Attic Reduplication,' i. e. either (1) doubling the whole root (*ᾔδ-ωδ-α*, root *ὀδ-*), or (2) repeating the first syllable only of the root or stem (*ᾗλειφω*, stem *ᾗλιφ-*, *ᾗλ-ήλιφ-α*; *ἐλαύνω*, *ἐλα-*, *ἐλ-ήλα-κα*). This 'Attic' Reduplication is most frequent in Homer, e. g. *ἀρήροται*, *ἁλᾶλμαι*, etc. Herodotus has *ἄρ-αίρη-κα* from *αἰρέω*¹.

The forms *ἔ-άλω-κα*, *ἔ-ᾗγ-α*, *ἔ-οικ-α*, *ἔ-ώνη-μαι*, are due to the loss of an initial consonant of the respective stems (*ῥ*). Homer has *ἔ-ᾔλπ-α* (*ῥελπ*), *ἔ-οργ-α* (*ῥεργ*, our *work*): see above, ch. iv. p. 68.

Certain verbs with initial liquid consonant have *αι* for reduplication, e. g. *εἴληχα*, *εἴληφα*, *εἵμαρται*.

The stem vowel is sometimes strengthened—a phenomenon common to Greek, Sanskrit, Gothic and old Erse, and in harmony with the possible origin of the perfect from an intensive present (above, p. 187). Cp. e. g.

Greek root *φαν*, perf. *πέφηνα*, with Vedic root *tas*, perf. *totāna* (3 sing.).

| | | | | | | | |
|---|------------|---|----------------|---|------------|---|-----------------|
| " | <i>λιπ</i> | " | <i>λέλοιπα</i> | " | <i>rit</i> | " | <i>rirōka</i> . |
| " | <i>φωγ</i> | " | <i>πέφευγα</i> | " | <i>ruj</i> | " | <i>ruṛōja</i> . |

This vowel-intensification is an archaic procedure, confined within definite limits, and is not as a rule transferred to later forms. Curtius² enumerates thirty-nine perfects in which there is *complete* intensification: i. e. where the short vowel of the root becomes the corresponding long vowel (only in case of a primitive *α*), as in *κεκράγα* (*ἔκρᾱγον*), *τέτηκα* (*τᾱκῆναι*), *μέμηλε*

¹ See Curtius' 'Greek Grammar,' § 275.

² 'Das Verbum,' II. pp. 183 sqq. (Engl. transl. pp. 396-400).

Greek
Perfect.

(orig. root $\mu\lambda$.); or where a diphthong appears (only where there is ϵ or υ in the root), as in $\text{o}\iota\delta\alpha$ ($F\iota\delta$ -), $\tau\acute{\epsilon}\tau\upsilon\chi\alpha$ ($\tau\acute{\epsilon}\tau\upsilon\gamma$ -μαι). A second group is marked by 'half intensification;' i.e. where ϵ of present stem becomes o , as in $\gamma\acute{\epsilon}\gamma\omicron\alpha$, $\delta\acute{\epsilon}\delta\omicron\rho\kappa\alpha$ ($\delta\acute{\epsilon}\rho\kappa\omicron\mu\alpha\iota$), $\xi\omicron\lambda\pi\alpha$ ($\epsilon\lambda\pi\iota\zeta\omega$), etc.; twenty-four examples of which are given, with the addition of $\epsilon\iota\omega\theta\alpha$, where o becomes ω under influence of ϵ , and $\xi\rho\rho\omega\gamma\alpha$, where η becomes ω .

A comparison of the conjugation of e.g. $\text{o}\iota\delta\alpha$ with the corresponding forms in Sanskrit and Gothic shows a curious correspondence in what is at first sight anomalous, viz. the restoration of the intensified stem to the singular number, in connection originally with certain laws of accent.

Perfect in
Sanskrit,
Greek, and
Latin.

| | Sanskrit. | Greek. | Gothic. | Latin. |
|---------|-----------|--|----------|-----------|
| Stem. | vid- | $F\iota\delta$ - | vit- | vid |
| 1 Sing. | véd-a | $F\omicron\iota\delta$ -a | vait | vidi |
| 2 " | vét-tha | $F\omicron\iota\sigma$ -tha | vais-t | vidisti |
| 3 " | véd-a | $F\omicron\iota\delta$ -e | vait | vidit |
| 1 Dual | vid-vá | | vit-u | |
| 2 " | vid-áthus | $F\iota\sigma$ -τον | vit-u-ta | |
| 3 " | vid-átus | $F\iota\sigma$ -τον | | |
| 1 Plur. | vid-má(s) | $F\iota\sigma$ -μεν | vit-u-m | vid-i-mus |
| 2 " | vid-á | $F\iota\sigma$ -τε | vit-u-th | vidistis |
| 3 " | vid-ús | $F\iota\sigma$ σι = $F\iota\delta$ -σάντι | vit-u-n | viderunt. |

Influence
of accent.

In Sanskrit can be seen the regular working of laws of accent which required this change from sing. to dual and plural in the perfect stem. In Greek, analogy has carried the raising of the stem right through the conjugation of this tense, e.g. $\lambda\acute{\epsilon}\lambda\omicron\upsilon\pi\alpha$, $\lambda\epsilon\lambda\omicron\iota\pi\alpha\mu\epsilon\upsilon$ (for $\lambda\acute{\epsilon}\lambda\iota\pi$ -μεν): but the impress of the laws in question remains, as we see in $\text{o}\iota\delta\alpha$, $\iota\sigma\mu\epsilon\upsilon$; in $\xi\iota\kappa\tau\omicron\upsilon$ from ξ -οικ-a (stem $\epsilon\iota\kappa$ -), $\epsilon\pi\acute{\epsilon}\pi\iota\theta$ -μεν plup. plur. from $\pi\acute{\epsilon}$ -ποιθ-a (stem $\pi\iota\theta$ -); and in the shortened plural forms of perf. $\beta\acute{\epsilon}\beta\alpha\mu\epsilon\upsilon$, $\tau\acute{\epsilon}\theta\eta\mu\epsilon\upsilon$, $\tau\acute{\epsilon}\tau\lambda\alpha\mu\epsilon\upsilon$, $\xi\sigma\tau\alpha\mu\epsilon\upsilon$, $\delta\epsilon\iota\delta\acute{\iota}\mu\epsilon\upsilon$. Latin has lost all trace of it; but it survives as above in Gothic, and in modern German *Ich weiss*, 'I know,' *Wir wissen*, 'we know.' [A similar change of

quantity, inexplicable at first sight, between δεικνῦ-μι and δεικ-
νῦμεν, δάμνημι and δάμναμεν, and similar words, is illustrated by Greek
Perfect :
Influence of
accent. the working of the accent in Sanskrit, where exactly the same
change is produced, but with greater regularity. In all these
cases Greek has lost the consciousness of the original motive
power for the change, retaining with uniformity of accent the
results of a difference (cp. véd-a, vid-má with οἶδα, ἴδμεν). These
survivals, however, were but few, and the natural process of
analogy brought about the complete uniformity of λέλοιπα, λε-
λοίπαμεν.]

Person-Endings of the Perfect Active.

1 *sing.*: -μι has disappeared, perhaps through loss of -i, fol-
lowed by that of the then isolated nasal (cp. e.g. πόδα, Skt. Person-end-
ings of Perf.
Act. padam). Two perfect forms in -μι, however, are mentioned as
having existed—ἴσα-μι and φοῖδημι (Aeolic).

2 *sing.*: -θα or -σθα is characteristic of this tense, and cor-
responds to Skt. and Zend tha, Latin -sti (see above, p. 171).
Greek, however, only retains it in οἶσθα, the fuller ending being
softened into -s on the analogy of the ordinary 2 *sing.* termina-
tion in other tenses.

3 *sing.*: -ti has disappeared, and a become weakened to ε, as in
γέγνε (γεγόνα-τι), Skt. jajāna. The Doric ἴσα-τι (Theocr. xv.
146) survives to show the primitive form; the successive steps
of decay being seen in Lat. vidit, Skt. védā, Gk. οἶδε.

1 *plur.*: Skt. has only the secondary ending -ma: but Gk.
and Latin retain -μεν (Doric -μες) and -mus respectively.

2 *plur.*: -τε as in present: a few peculiar forms only having
-θε (perhaps from analogy of the middle τέτυκθε, ἔφθαρθε), e.g.
πέποσθε (for πεποσ-τε=πεπονθ-τε): cp. the imper. *sing.* forms ἄνωχθε
(Od. xxii. 437), ἐγρήγορθε (Il. vii. 371), the latter of which recalls
ἐγρήγορθαι (infin. mid.), Il. x. 67.

3 *plur.*: The ā of -āσι is usually held to indicate contraction
for -σαντι or -αντι, e.g. ἴσασι=ἴδ-σαντι (above, p. 190), πεποι-
θᾶσι=πεποιθα-(σ)αντι. The existence of two Homeric forms in
-ᾶσι (πεφύκᾶσι Od. v. 114, λελόγᾶσι Od. ix. 304), and elsewhere
of μεμαθήκᾶσι, πεφήνᾶσι (Xenophanes), νενεύκᾶσι (Antimachus), and
πεπήγᾶσιν (Empedocles), points perhaps to a primitive -ντι (-ατι)

Greek
Perfect:

retained as the *thematic* ending, *-σαντι* being that of *non-thematic* forms: e. g.

πεποιθᾶσι = *πεποιθα-ᾶσι* (*πεποιθα-ατι*), Thematic.

γεγάσιν = *γγεν-σαντι*, Non-Thematic.

πεφύκασιν = *πεφυκ-ασι* = *πεφυκ-ντι* (as *τετευχ-αται* = *τετευχ-νται*) would then be a relic of the primitive conjugation of dual and plural perfect active described below: not (as Curtius thinks) a metrical shortening of *πεφυκάσιν*.

Formation
of Stem.

Primary formation of Perfect Stem. In the formation of the Greek Perfect Stem we meet with a difference analogous to that between 'Non-Thematic' and 'Thematic' Present or Aorist Stems. In a limited number of archaic verbs (erroneously described as 'syncopated' from the common, but later formation) the person-endings of the dual and plural indicative were attached *directly* to the stem. Nineteen such verbs are enumerated by Curtius¹; some of the more familiar forms being *βεβά-ασι* (Il. ii. 134), *δεῖδι-μεν* (Il. i. 230), or Attic *δέδι-μεν* (Thuc. iii. 56), *εἰλήλουθ-μεν* (Il. i. 49, Od. iii. 81) cp. with *ἐηλύθα-μεν*, *ἐπέπιθ-μεν* (Il. ii. 341) cp. with *ἐπεποιθα-μεν*, *ἔστα-μεν*, etc., *τέτλα-μεν*, etc. In all except these comparatively few archaic forms the Greek perfect stem is distinguished by the final stem letter *a*.

This characteristic *-a* of Greek perfect stems (*πέποιθα*, *πεποιθα-μεν*) is not (as has been supposed) a 'connecting vowel,' but an addition to the stem analogous to the 'thematic vowel' (*ε* or *ο*); which in Greek became the rule of all perfect stem formation, with the exception of the archaic forms just mentioned. It also appears in Sanskrit, but less regularly, e. g. *tutōda* 1 and 3 sing., but *tutudi-ma*, *tutudi-tha*, with which it is obvious to compare, as Curtius does (Il. 173, Engl. tr. p. 389), the Latin *tutudi-mus*. The perfects which exhibit this *a* thus stand to the archaic forms already mentioned as 'thematic' to 'non-thematic' forms; so that e. g. *γεγονα* (in *γεγόνα-μεν*): *γεγα-* (*γέγαμεν*): *ἄγο-* (*ἄγο-μεν*): *τιθε-* (*τίθε-μεν*).

It is probable that this auxiliary *ā* was originally confined to

¹ 'Das Verbum,' II. pp. 168-70 (Engl. transl. pp. 386-7).

1 sing. and 3 plur. (primitive *-am, -ant*, Gk. *a, -ᾶν*) and was ^{Greek Perfect.} gradually extended to other person-endings. The argument (for which I am indebted to Mr. Monro) is as follows :—

1. Sanskrit stems ending in *i, u*, take *a* before *-m* of 1 sing. and *-n* of 3 plur.; e.g. *açravam, açro-s, açrot*—3 pl. *acravan*; *adarç-am*,—3 pl. *adarç-an*.

2. The 2 sing. has no auxiliary vowel in Skt. perfects, and in *ῆσ-θα, οἶσ-θα. οἶδα-s* is found in Homer, and all later perfects have *a*, as *τέτληκα-s*.

3. In the Homeric perfect and aorist in *-κα* the *a* appears regularly in sing. act., occasionally in 3 plur.

4. The later perfect employs *ä* throughout the active, retaining the original stem in Middle: *πείποιθα-μεν, πείποιθατε*, etc. supplanting Homeric *πέπιθ-μεν*, etc. The Homeric perf. *ἐν-ήκαμεν* (Od. xii. 401) represents this stage.

5. The aorist in *-σα* extends *a* to the Middle, and to part. and infin.; but forms conjunctive without it.

6. In the Alexandrian period *ä* even takes the place of the Thematic Vowel (*ε* or *ο*), as in *εὔρά-μην*, etc. (so possibly in Homeric *ξεῖπα, ἤνεκα*).

We have thus a series of steps by which stems in *-ä* sup-
planted older forms. The newer form in each case—at first a solecism—had generally two advantages over the established one: (1) it avoided the meeting of consonants (e. g. in *πέ-πιθ-μεν*) and consequent phonetic decay, (2) it gave a uniform sound to connected terminations.

The ordinary formation of Perfect Active in Greek may be divided into—

1. *Strong Perfect*, formed directly from the stem—*πράσσω*, ‘Strong’
πέ-πρᾶγα; *τίκτω* (stem *τεκ* as in *ἔ-τεκ-ον*), *τέ-τοκα*; *λείπω*, *λέ-λοιπα*,
and ‘Weak’
Perfect.
The Strong Perfect occurs almost entirely in the case of verbs whose verbal stem is a root ending in a consonant; and is generally the older and rarer form.

2. *Weak Perfect*, formed from the stem by insertion of *κ*,—*ἔσταλ-κα, κέ-κρι(ν)-κα*; the only form in use in vowel stems, and the most common with stems ending in *τ, δ, θ, μ, ν, λ, ρ*. The origin of this element *κ* is unknown: it occurs rarely in Homer

(about twenty¹ out of nearly three hundred known instances) and then only with vowel-stems: and is evidently an element of stem formation, which is traceable in the isolated aorist forms *ἔδωκα*, *ἔθηκα* (cp. *θήκη*), *ἦκα*; in present forms such as *ὀλέ-κω*; in aorists such as *ἤμπλακον*, *ἔπτα-κον*; and possibly in forms like *βάκ-τρον*, *δασ-υλὺς* (root *βα* of *βαίω*, *ἔβην*), *φύκ-ος*, *fusc-us* (*φύ-ω*, *ἔ-φυν*). Curtius suggests a comparison with the Latin *fac-io*, which, if root *fa*=*θε*, would be a present form corresponding to *ἔθηκ-α*.

The aspiration of the final stem consonant in forms like *γέ-γραφα* (*γραπ-*), *ἐνέ-ροχα*, *εἰλη-φα*, etc. is probably a mere phonetic alteration without any definite reason. It is unknown to Homer, who has e.g. *κεκοπώς*: and is found in comparatively few verbs. Curtius² enumerates thirty-seven aspirated perfects, most of them not found before Polybius. Bopp regarded these aspirated perfects as a distinct formation, a view which is sufficiently refuted by Curtius (*Elucidations to Greek Grammar*, § 272, pp. 123-128, English Translation).

Perfect
Middle and
Passive.

The term 'Perfect Middle' applied to e.g. *γέ-γονα* is erroneous. A perfect Middle or Passive can only be formed in one way, viz. by affixing Middle person-endings without a connecting vowel to the reduplicated stem, as *λέ-λυ-μαι*, *τέτυμμαι*=*τέ-τυπ-μαι*. The final consonants of consonantal stems change by the laws of assimilation before the initial *μ*, *σ*, *τ* of the inflections, as in the table on p. 195.

The Perfect Middle generally exhibits a simpler form of Perfect Stem than the Perfect Active, in which (as has been shown above) intensification of the stem vowel and addition of the elements *α* and *κ* have modified the original reduplicated stem. Cp. e.g. *τετύγ-μεθα* with *τετεύχα-μεν*, the primitive form of which would be *τετυγ-μεν*: *λελάσ-μεθα* (for *λελάθ-μεθα*) with *λελήθα-μεν*.

The *Pluperfect Middle and Passive* differs from the Perfect

¹ These are *ἀδηκότες*, *βέβηκας*, *βεβίηκε*, *βεβλήκοι*, *βεβρωκός*, *δεδάηκε*, *δειπνήκει*, *δέδοκε*, *δείδουκα*, *ὑπεμνήμυκε*, *ἔστηκας*, *κέκμηκας*, *μέμβλωκε*, *μένυ-κεν* (*μύω*), *πεφύκασι*, *τεθαρόσηκαςι*, *τέθνηκε*, *τέτληκας*, *τετυχηκός*, *παρώχαικε*. See Curtius, 'Das Verbum', II. p. 210 (Engl. transl. p. 413).

² Ibid. pp. 200, 201 (Engl. transl. p. 407).

| Final Letter of Stem assimilated. (See pp. 74-78.) | Before μ. | Before σ. | Before τ. | Examples. | |
|---|--------------|--------------|--------------|-----------|---------------------|
| | | | | Stem. | Perf. Pass. Inflec. |
| All Gutturals to | γ | κ (ξ) | κ | πλεκ- | πέπλεγμαi |
| | | | | " | πέπλεξαi |
| " Dentals " | σ | rejected | σ | λεγ- | λέλεκ-ται |
| | | | | πιθ- | πέπεισ-μαι |
| | | | | " | πέπει-σαι |
| | | | | " | πέπεισ-ται |
| " Labials " | μ | π (ψ) | π | γραφ- | γέγραμ-μαι |
| | | | | " | γέγραφαi |
| | | | | " | γέγραπται |

Perfect
Middle and
Passive.

only in prefixing the augment and in having the secondary Person-endings. The Pluperfect Active is a composite tense and will be treated below.

Latin Perfect-stem :—

There are several different ways of forming the perfect-stem : Formation of Latin Perfect-stem.

viz.—

(i.) *Reduplication*; only in about twenty-seven verbs, and with some of these only in archaic Latin (e.g. *te-tuli*, *te-tini*, *sci-cidi*). Of two initial consonants, the second is treated as initial, and both are retained (unlike Greek) in the reduplicated syllable; e.g. *ste-ti* (*sta-*), *spo-pond-i* (*spond-*).

The vowel in the reduplicated syllable often (as in Greek) sinks to *e*, especially where the root vowel is *a* or a weakening of *a*; *dedi* (*da-*), *cecini* (*can-*), *peperi* (*par-*), *cecidi* (*caed-o* = *caid-*), *te-tuli* (root *tol* = *tal*). In compound verbs the reduplication often disappears, e.g. *pepuli*, *expuli*; *cucurri*, *decurri*; but remains in compounds of *do*, *sto*,—*abdidi*, *abstisti*. *Reppuli*, *rettuli*, *repperi*, etc. (sometimes explained as the result of assimilation from *red*, the earliest form of *re*) perhaps = *re-pepuli*, *re-tetuli*, etc., *e* disappearing.

If the root syllable *a* of present sinks to *e* (or *i*) before two consonants or *r* (p. 61), *e* becomes *u* before *l* (*pepuli*, *pello*, *sepultus*, *sepelio*).

(ii.) *Raising the Stem-vowel* (without reduplication—Greek 2. Raising Stem-vowel.

Latin Perfect-stem.

employs both); *fāve-o, fāvi*; *āgo, ēgi*; *idēo, iēci*; *lēgo, lēgi*; *vīdeo, vīdi*; *rumpo* (stem *rūp-*), *rūpi*, etc. Some explain the length of the root syllable in these perfects by the absorption of a reduplicated syllable: i.e. *iēci*=*ieiici*, *lēgi*=*leligi*; or, where *v* is final stem consonant, by absorption of a suffixed *v* (see below, iv): i.e. *fāvi*=*fāv-vi*. But the analogy of Greek perfect-stems (above, pp. 187-9) where vowel-raising and reduplication go together, perhaps points to a similar account of this formation in Latin: one part of the process is lost, but the other remains.

3. Suffixing
-s.

(iii.) *Suffixing -s* (perfect in *-si*) to consonant-stems; a later form, sometimes found side by side with the older reduplicated perfect: e.g. *punxi* (*-csi*) with *pupugi*; *panxi* (*pang-si*) with *pepigi*; *intellexi* (*leg-si*) with *lēgi*. For illustrations see Roby's Latin Grammar, i. §§ 670-675. The termination *-s-i* is supposed to = *es-i*, a perfect formation from the stem *-es*, and therefore analogous to the *-sa* of Greek weak (first) aorist stem. Strictly speaking, this perfect is a 'weak' or composite tense, and (with the perfect in *-vi* or *-ui*, mentioned below) is sometimes classed separately under the head of 'Weak Perfect-stem;' numbers i and ii being the 'Strong Perfect-stem:' but it seems more convenient to arrange all varieties of the Perfect-stem together.

4. Suffixing
-ui, or -vi.

(iv.) *Suffixing -u* (*-ui*) to consonant-stems, or *-v* (*-vi*) to vowel-stems, as with most regular verbs in *ā, ī, amavi, audi-vi*; *ē* stems with a few exceptions (*abolevi, delevi, and quievi*, etc. from inchoative pres. *quiesco*) 'drop the final *ē* and form the perfect as though from a consonant stem, *mon(s)ui, ferb-ui*, and from some *ā-* stems are found similar forms, e.g. *crep-ui, cub-ui* (rarely *crepa-vi, cuba-vi*); also from pres. *-io*, infin. *-ire* (*ī* being dropped), *aper-ui, salui*.

The perfect form in *-vi, -ui*, is found in a considerable class of verbs with a Present-stem (see below, pp. 207, 209) increased by *n* or *sc*, e.g. *lino, livi*, or *levi*; *sino, si-vi*; *cre-sco, cre-vi*. In *sternui* from *sterno*, *trivi* from *tero*, the stem originally consonantal becomes a vowel-stem by metathesis of the vowel and *r*: *pōs-ui* is from *pōs-no*, contracted, *pōno*.

In certain verbs whose stems end in *-u* (*acuo, arguo, tribuo*, Latin Perfect-stem. *statu-o*, etc.) the *-ui* of the perfect arises from loss of *v*, *u* being the stem-letter, e. g. *statui*=*statu-vi*. In some other verbs the apparent identity of perfect- and present-stem may arise from loss of reduplication (*pandi, verti*, etc.).

N.B. The perfect-stem formed by suffixing *v* is frequently modified by the omission of *v* in all forms except 1 and 3 sing. and 1 plur. of perf. indic., and the contraction of the vowels thus brought together: e. g. *amāsti, amāstis, amādrunt, amādrām, amāssem, amāsse*. Sometimes however the vowels are not contracted after loss of *v*, e. g. *ie* and sometimes *ii*, as *audieram, audiero, audiisti*, as well as *audisti*; so frequently from *peto, eo* and their compounds.

Sometimes both forms of Compound Perfect in *-si* and *-ui* are combined in one verb, e. g. *met-o, messui*=*met-s-ui*: *necui*=*nec-s-ui* (stem *nec-*).

The ending *-vi, -ui* is generally recognised as = *fu-i* the preterite of stem *fu-* (Sanskrit *bhu-* in *bhav-ā-mi*=*existo, orior*; 3 sing. 2 aor. *a-bhū-t*: Greek *φύ-ω, φν-ρέω*, etc.; *fu-am, futururus, fo-rem, fore*). The original *bh* represented by *f* in *fu-i*, etc. (p. 70), may have passed into *h*; then *hui* would easily lose its aspirate, and become *-ui* or *-vi*. Whatever the process, it is evident that *vi*=*ui* and that *v* must not be considered as representing the *f* of *fu-i*. The formation, then, of the compound perfect in *-vi* is exactly analogous to that in *-si*; a preterite form of stem *fu-* being used in one case, a preterite of stem *es-* in the other.

The terminations are the same for all four classes of perfect-stems, being distinguished throughout from the Greek perfect by the characteristic vowel *ī*¹ (found in old Latin in all persons except 1 plur. and often written *ei*).

¹ Corssen (Ueber Aussprache, etc., i. p. 609, 2nd edition) quotes from the poets, *fuit, rediit, vidit, dedit, stetit*, and many others. Lachmann, on Lucr. iii. 1042, instances *petiit, abiit, rediit, petiit*, from various passages in Ovid, and 'Italiam fatis petiit auctoribus,' from Virg. Aen. x. 67, where however most MSS. and editors read 'petiit fatis:' and goes so far as to maintain that, the final *-it* being necessarily long, Virgil would not have shortened it, but must have written, e. g. in G. ii. 81, Aen. ii. 497, *exit* not *exiit*, in Aen. v. 274 *transiit* not *transiit*. Lachmann's extreme view, how-

Latin Perfect-stem.

This *ī* appears as *ē* in 3 plur., and in old forms of 3 sing., e.g. *fuet* (Scip. Epit., see Appendix I, i. 2), *dedet*, *ornavet*; *fueit*, *dedit*, etc. on old inscriptions, representing an intermediate sound between *ē* and *ī*. The length of the vowel in such forms led Corssen (Ausspr. I. p. 614) to connect them with a Sanskrit aorist formation characterised by *ī* [e.g. from root *vid*, 'to know,' *avēdisham* (Ved. *aved-īm*), *avēdishi* (*avēd-is*), *avedīt*; plur. *avedishma*, *avēdishta*, *avēdishus*. Curtius however (Das Verbum, II. pp. 173 sqq.), points out that these forms are entirely without reduplication, which from the first connects the Latin perfect with that of Greek and Sanskrit; and refers in illustration of its characteristic *ī* (the only difficulty to complete identification with Greek and Sanskrit) to Indian forms which have *ī* inserted between stem and suffix, some present (e.g. *bravī-mi*, 'I speak'), some present forms from *intensives*, e.g. *dardar-ī-mi* (root *dar*, 'split'), *bōbhavi-ti* (root *bhū*, 'be'). If the perfect is originally an intensive present (above, p. 187), this *ī* may well compare with *ī* of Latin perfects; and the intensive form *bōbhavi-ti* would correspond exactly to *fūit* (an old form) which = *fe-fovi-t*. And in any case the occurrence of *ī* elsewhere than in aorist formations prevents it being a reason for necessarily connecting forms that exhibit it with aorists. Curtius also points (l.c. pp. 175-8) to traces of a stem forming *η* (or *ε*) in the Greek perfect, e.g. *foiḡη-μ* (Aeolic), the 2 and 3 sing. forms in *-ης*, *-η* which occur in some MSS. of Theocritus, the perf. infin. in *ε-υα*, and Doric fem. participles in *-εῖα*: and, as a Latin vowel fluctuating between *e*, *ei*, and *i* corresponds to Greek *ε* (original *a*) in e.g. *ne* (*ni*, *nei*) cp. with *νῆ-ποιος*, and *sēmi*-cp. with *ἤμυ-*, he contends for the analogy between *foiḡη-μ*, *foiḡη-σθα* and *vidī*, *vidī-sti*.

Another view is that the Latin perfect is formed by a suffix *-is* (*is-ti*, *is-tis*), with which the *ēr-* of 3 plur. (*ēr-unt* = *ēs-unt*) is identical; cp. also the infinitive termination *-is-se*. These

ever, is repudiated by Munro on Lucr. l. c., and Conington on Aen. ii. 497; the former pointing out that Ovid is singular among the poets of his day in lengthening the final *-it* of perfects, which, though undoubtedly long temp. Ennius, had come to be universally shortened like so many other final sounds in Latin.

forms, it is held, point to a suffix *is* as characteristic of the perfect indicative, whose complete forms would be Latin Perfect-stem.

fec-is-m(i) (later *fec-ī*),

fec-is-ti,

fec-is-t, („ *fecūt*),

fec-is-mus, („ *fecimus*),

fec-is-tis,

fec-is-o-nt=*fecērunt*.

s in Latin not unfrequently falls out before *m* and *t*; this would account for the later forms of 1 and 3 sing.; and of 1 plur. also, except that here the *ī* is always short in poetry, and no forms in *ei* have been preserved. We must therefore suppose that in 1 plur. the tendency to shorten the penultima, which is seen at work in 3 plur. *tulērunt*¹, etc., and in the forms of perf. subj. *dederimus*, etc. (where *ī* is the characteristic mood-sign) prevailed to such an extent at so early a period, as altogether to obscure the original quantity. [In the case of 3 plur. the syncopated forms *dedrot*, *dedro*, *dederunt*, on old Pisauran inscriptions², show the early prevalence of such a tendency.]

Others (e.g. Schleicher, Comp. § 291) suppose two forms of perfect-stem, in *is* and in *ī*, to account for the different persons of the perf. indicative. The variety of possible, and more or less plausible, hypotheses only shows that for the present no final explanation has been reached; *pe-pig-ī*, *πέ-πηγ-α* are obviously parallel forms from a common root *pāg*. We can explain the difference of quantity in the second syllable (see p. 189); but at the reason of that in the final syllable we can only guess.

2. 'Simple' or 'Strong' Aorist-stem [2nd Aor.].

¹ Virg. Ecl. iv. 61 (*tulērunt*), Aen. ii. 774 (*stetērunt*). *Miscuerunt* in Georg. ii. 129, iii. 283, may possibly be trisyllable (-*cue* by synizesis). Lucretius frequently shortens the *er*; Ennius not so often: and it is probable that this quantity was a later poetical licence with perhaps some foundation in the tendencies of ordinary pronunciation.

² These inscriptions (chiefly votive, to female divinities) are given in Wordsworth's 'Fragments and Specimens,' p. 167. On the marks of their antiquity (not later than the Hannibalic war) see Mr. Wordsworth's notes, p. 408.

Strong
Aorist gener-
ally = pure
Verbal-stem.

The Strong Aorist-stem exhibits, with few exceptions, the Pure Verbal-stem, sometimes reduplicated; e.g. $\xi\lambda\iota\pi\sigma\upsilon$ from $\lambda\epsilon\acute{\iota}\pi\omega$, $\acute{\alpha}\gamma\alpha\gamma\epsilon\upsilon\upsilon$ from $\acute{\alpha}\gamma\omega$. It is only formed as a rule from verbs in which the pure verbal-stem is distinct from the present-stem (enlarged), e.g. $\lambda\epsilon\acute{\iota}\pi\omega$, stem $\lambda\iota\pi\text{--}$; $\phi\epsilon\acute{\upsilon}\gamma\omega$, stem $\phi\upsilon\gamma\text{--}$; $\beta\acute{\alpha}\lambda\lambda\omega$, stem $\beta\alpha\lambda\text{--}$; and but seldom from any but 'root-verbs,' whose stems cannot be traced back further. Verbs whose present-stem = pure verbal-stem, e.g. $\acute{\alpha}\rho\chi\omega$, $\lambda\acute{\upsilon}\omega$, $\lambda\acute{\epsilon}\gamma\omega$, etc., form no strong aorist, because in these cases it would coincide with the imperfect. With $\acute{\alpha}\gamma\omega$, however, the reduplicated form $\acute{\alpha}\gamma\alpha\gamma\omicron\upsilon$ avoids this confusion: and with some other verbs the change of the vowel in the pure verbal-stem forms a strong aorist distinct from the imperfect, e.g. $\tau\rho\acute{\epsilon}\pi\omega$, $\acute{\epsilon}\tau\rho\alpha\pi\omicron\upsilon$.

Greek has two main classes of Strong Aorist forms, corresponding to the two principal conjugations, (p. 168):—

- (i.) Without thematic-vowel, usually from vowel-stems¹, e.g.
Act. [$\xi\theta\eta\upsilon$, $\xi\theta\eta\varsigma$, $\xi\theta\eta$]: $\xi\theta\epsilon\mu\epsilon\upsilon$, $\xi\theta\epsilon\tau\epsilon$, $\xi\theta\epsilon\sigma\alpha\upsilon$ (compound)
(but $\xi\beta\alpha\upsilon$).
Mid. $\xi\theta\acute{\epsilon}\mu\eta\upsilon$, $\xi\theta\epsilon\sigma\omicron$, $\xi\theta\epsilon\tau\omicron$: $\xi\theta\acute{\epsilon}\mu\epsilon\theta\alpha$, $\xi\theta\epsilon\sigma\theta\epsilon$, $\xi\theta\epsilon\tau\omicron$.
 $\xi\theta\omicron\upsilon$,

So $\acute{\epsilon}\beta\eta\upsilon$, $\acute{\epsilon}\phi\theta\eta\upsilon$, $\acute{\epsilon}\tau\lambda\eta\upsilon$, $\acute{\epsilon}\gamma\omega\upsilon$, $\acute{\epsilon}\acute{\alpha}\lambda\omega\upsilon$, $\acute{\epsilon}\phi\upsilon\upsilon$, etc.: and certain Epic middle forms from consonant-stems without a connecting-vowel, e.g. $\acute{\alpha}\lambda\tau\omicron$, $\acute{\delta}\acute{\epsilon}\kappa\tau\omicron$, $\lambda\acute{\epsilon}\kappa\tau\omicron$, $\pi\acute{\alpha}\lambda\tau\omicron$, $\mu\acute{\iota}\kappa\tau\omicron$, $\omega\rho\tau\omicron$; $\lambda\acute{\epsilon}\chi\text{--}\theta\alpha\iota$, $\delta\rho\text{--}\theta\alpha\iota$, $\delta\acute{\epsilon}\chi\text{--}\theta\alpha\iota$ (infinitive); $\acute{\alpha}\lambda\mu\epsilon\upsilon\omicron\varsigma$, $\acute{\alpha}\rho\mu\epsilon\upsilon\omicron\varsigma$, $\delta\acute{\epsilon}\gamma\mu\epsilon\upsilon\omicron\varsigma$, and $\acute{\alpha}\sigma\text{--}\mu\epsilon\upsilon\omicron\varsigma$ used adjectivally (= $\acute{\alpha}\delta\text{--}\mu\epsilon\upsilon\omicron\varsigma$). The imperatives $\lambda\acute{\epsilon}\xi\omicron$, $\delta\acute{\epsilon}\xi\omicron$, $\delta\rho\sigma\omicron$ are more probably weak aorist formations (see below): $\kappa\acute{\epsilon}\kappa\lambda\upsilon\text{--}\theta\iota$, $\kappa\acute{\epsilon}\kappa\lambda\upsilon\text{--}\tau\epsilon$ are examples of reduplicated forms.

¹ The original quantity of the root-vowel in some of the forms here cited is a matter of some uncertainty. In $\xi\theta\acute{\epsilon}\tau\eta\upsilon$, $\theta\acute{\epsilon}\iota\upsilon\alpha\iota$, $\theta\acute{\epsilon}\text{--}\sigma\iota\varsigma$, and kindred forms, $\acute{\delta}\acute{\epsilon}\text{--}\delta\omicron\text{--}\tau\alpha\iota$, $\delta\omicron\upsilon\upsilon\alpha\iota$, $\delta\omicron\text{--}\sigma\iota\varsigma$, etc., $\phi\acute{\alpha}\text{--}\theta\iota$, $\phi\alpha\text{--}\tau\acute{\omicron}\varsigma$, etc., the short vowel of $\theta\epsilon$, $\delta\omicron$, $\phi\alpha$, appearing as it does in a majority of forms, is presumably the primitive root-vowel. On the other hand, the Indian grammarians allow no roots in \acute{a} , but only in \bar{a} ; so that Sanskrit $d\bar{a}$ answers to Greek $\delta\omicron$, Latin $d\bar{a}re$ (but $d\acute{o}num$), Sanskrit $d\bar{h}\bar{a}$ to Greek $\theta\epsilon$: and in forms like $\gamma\bar{w}\bar{\omega}\text{--}\nu\alpha\iota$, $\gamma\bar{w}\bar{\omega}\text{--}\tau\acute{\omicron}\varsigma$, $\gamma\bar{w}\bar{\omega}\text{--}\sigma\iota\varsigma$, etc., $\beta\bar{i}\bar{\omega}\text{--}\nu\alpha\iota$, $\bar{a}\bar{\lambda}\omega\text{--}\nu\alpha\iota$, $\bar{d}\bar{\omega}\text{--}\nu\alpha\iota$, etc., $\tau\acute{\epsilon}\text{--}\tau\bar{r}\omega\text{--}\mu\alpha\iota$, $\acute{\epsilon}\text{--}\tau\bar{r}\acute{\omega}\text{--}\theta\eta\upsilon$, etc., the long vowel extends to the greater number if not to all the forms, and seems to be original. Schleicher maintains that \acute{a} is the primitive form in all Sanskrit roots; and readers of his Compendium will find this assumption there carried out. This view may or may not be correct, but we have no data reaching far enough back into the history of European speech to enable us to determine the question.

(ii.) With thematic-vowel, as in ordinary conjugation :—

Strong
Aorist.

| | | | |
|-------------------|-------------|-------------|----------------------------|
| Act. ἔ-λιπ-ον, | ἔ-λιπ-ε-ς, | ἔ-λιπ-ε, | } and so on, as Imperfect. |
| Mid. ἔ-λιπ-ό-μην, | ἔ-λίπ-ε-σο, | ἔ-λίπ-ε-το, | |
| | ἐλίπον, | | |

To this belong most of the reduplicated forms, frequent in Homer, e. g. πέπιθ-ον, ἔειπον=ἐφεφεν-ον (usually without augment εἶπον), ἐπέφραδον, ἠνίπαπον, ἠρύκακον. Reduplication here probably does not (as in the perfect-stem) express past or completed action; for this is expressed by the augment, and the combination of the two elements would not be analogous to that found in the pluperfect. We must therefore look to other uses of Reduplication, e. g. the expression of intensive meaning (above, p. 52). Curtius ('Temp. und Modi,' pp. 150-164) enumerates thirty-two reduplicated aorists, in seven of which (ἤκαχον, ὤρορε, δέδαε, λέλαθον, λέλαχον, πεπαρεῖν, κεκαδών) he traces a *causative* meaning; in eleven (κέκλετο, ἠνίπαπε, ἐρύκακε, ἤφαφον, κέκλυθι, λέλαβέσθαι, ἀμπεπαλὼν, ἐπέπληγον, τεταρπύσθαι, ἐπέφραδε, τεταγών) an *intensive* meaning; in two (πετύκοντο, πεπίθειτο) a special *transitive* sense; while in the remaining ten (ἄλαλκον, ἤγαγον, ἤνεγκον, κεκυθῶσι, κεχάροντο, λελάκοντο, μεμάποιεν, πεφιδοίμην, ἔτρεμον, ἔπεφρον) no special influence of the reduplication can be detected. In his later treatise ('Das Verbum,' ii. pp. 21-32) he enumerates forty-one reduplicated aorists; but is more cautious in expressing an opinion as to the exact force of the reduplication. Thus he only mentions ἐκέλετο (cf. κέλετο), κέκλυθι (cf. κλύθι), ἠνίπαπε, and perhaps τεταγών (as cp. with *tangere*) as examples of *intensive* force, while citing the same verbs as before for *causative* force. From these Greek forms and a comparison of Sanskrit, in which reduplicated aorists are formed almost entirely from verbs of the tenth class (principally causatives), Curtius arrives at the conclusion that in the reduplicated aorist the reduplication (*Verdoppelung*) belongs not to the tense-formation but to word-formation: and that its original import was to give an *intensive* or *causative* meaning, irrespective of time.

Traces of an aorist formation in Latin are supposed to lie in certain old forms, e. g. in *tago*, *tagis*, an old pres. form of *tango*, mentioned by Festus (Forcell. quotes Plaut. Asin. ii. 2. 106,

Traces of
Aorist in
Latin.

but the reading is doubtful) exhibiting a shorter or 'pure' verbal-stem *tag* (θυ) beside present stem *tang*; in *pagunt* (XII Tab.) beside present *pango*, cp. ἐ-πάγ-ην, πήγνυ-μι; and in *parentes* (=οὶ τεκ-όντες), beside *parientes* (οὶ τίκτ-ο-ντες).

3. Present-stem.

Present-stem in relation to Pure Verbal-stem.

The Present-stem is (as has been already pointed out, p. 160) in many cases different from the pure verbal-stem, by combination of which with the various suffixes of person, mood, and tense, all the forms of the verb may be explained. Under the heading 'Present-stem' is in fact included a series of morphologically distinct formations, each of which had originally its own special meaning (e. g. inchoative, intransitive, durative, passive, intensive, causative, desiderative, iterative): but in Greek and Latin, while a variety of forms remains, distinct functions have disappeared, or survive only in a few special cases (such, e. g., as the forms for inchoative and desiderative verbs). By Sanskrit grammarians the special modifications of roots to form the present-stem of verbs are taken as the basis of a classification of verbs: and the ten 'conjugations' of Sanskrit grammar are ten classes of verbs arranged according to the formation out of roots of verbal-bases or stems, which then receive a common scheme of terminations, in the four 'conjugational tenses' (present, imperfect, potential, and imperative) which alone are affected by the rules of stem-formation. In all other tenses there is one general rule for forming the base or stem of all verbs, i. e. in all except the four 'conjugational tenses' all Sanskrit verbs belong to one common conjugation. For Greek and Latin Grammar, in which no such elaborate system of stem-formation and euphonic combination of stems with inflections can be traced, the most practicable classification of verbs (as of nouns) is found to be a purely phonetic classification, according to the final letter of the stem (see pp. 167-9): but in the various formations of the Present-stem we have the outlines of a system akin to that of Sanskrit, which may to a certain extent be made the basis of a classification of verbs according to *stem-formation*, but without the corresponding distinctions of *meaning* which give its point to such classification.

Present-stem in Sanskrit.

The Present-stem is, generally speaking, an *enlarged* form of the 'pure' Verbal-stem, either by strengthening this latter or making additions to it. For strengthening a root, language employs two principal means,—Reduplication, and Vowel-strengthening (see above, pp. 51, 53); and to these may possibly be added a third, viz. Nasalisation. The operation of these is seen in the formation of 'Intensive' Verbs in Greek, in which Reduplication is often combined with Vowel-strengthening (e. g. *ιγνέω*, *παιπάλλω*, *ποιπνύω*) and Nasalisation (e. g. *παμφαίνω*, *βαμβαίνω*, *γογγύζω*, etc.). The employment, separately, of these three means of stem-strengthening gives us three distinct classes of Present-stem¹: and if we take first (as probably earliest in order of time) those verbs in which the Present-stem is identical with the Verbal-stem, we shall thus have four classes of Present-stem, viz. :—

Formation
of Present-
stem.

Classifica-
tion of Pre-
sent-stems.

1. Verbal stem unaltered—*φῆ-μι*, *γράφ-ω*, *ἔγω*, *cadō*, etc.
2. " " reduplicated—*δί-δωμι*, *πίπ(ε)τω*, *bībo*, *sero* (= *seso*).
3. Stem-vowel strengthened—*φεύγω* (*φυγ-*), *λείπω* (*λιπ-*) *dūco* (*dūc-*), *fido* (*fides*).
4. Nasalisation :—
 - (1) By insertion—*ἐλέγχω*, *σφλέγγω*, *tango*, *fīdo*, *fundo*, etc.;
 - (2) By addition—*κάμνω* (*καμ-*), *δάκνω*: forms in *-νυ-μι*, *νη-μι*, and *-αν-ω*: *ster-n-o*, *sper-n-o*, *stern-u-o*;
 - (3) By both these—*λαμβάνω* (*λαβ-*), *μανθάνω* (*μαθ-*), etc.

To these may be added three more classes, viz. :—

5. Addition of *t* sound—*τίπτω* (*τυπ-*), etc., *pecto*, *flecto*.
6. " " *γα* (pronominal ?), which appears,
 - (1) as simple *i* sound—*μηνίω*, *sal-īo*;
 - (2) in a diphthong—*δαί-ω*, *μαίομαι*, *φαίνω*, *κτείνω*, etc.
 - (3) by assimilation into a double consonant.
7. Addition of *sk*, Gk. *σκ*, Lat. *sc* (Inchoative and Iterative verbs).

Of these classes, 2, 3, 4, and 5 show a phonetic increase of the root; 6 and 7 being formed by the addition of distinct (pronominal) stems. Some, however (e. g. Schleicher and—though less positively—Curtius in his latest work²) regard

¹ It sometimes happens that two or more of these methods are employed in forming from the same stem verbs of a kindred signification, e. g. *ἐργάζανω*, *ἐρεύγω*—*τυγχάνω*, *τεύχω*—*πυνθάνομαι*, *πεύθομαι*—*λανθάνω*, *λήθω*, etc., etc. See Curtius, 'Tempora und Modi,' p. 81.

² 'Tempora und Modi,' pp. 67–123; 'Das Verbum,' I. pp. 227–265 (Engl. transl. pp. 160–186).

Classification of Present-stem.

4 and 5 as also exhibiting an additional pronominal element (*na*, *nu* or *n*, *ta* or *t*). In the absence, however, of *data* respecting the original development of these forms we must regard this as an open question: all that we can say is that, e. g. *τυπτο* (*τυπτε*), and *δεικνυ* are like *ἀγο* (*ἀγε*), fully developed, possibly nominal, stems as far back as we can trace the growth of language.

The Present-stem receives in all cases the primary form of the Person-endings: and under each of classes 1-4 fall Greek verbs of both principal conjugations (p. 168), affixing the terminations to the stem with or without the addition of a thematic vowel, e. g.—

1. (Unaltered) *ἀγω* (*ἀγ-ο-μι*) and *ἔσ-μι*.
2. (Reduplicated) *πίπ(ε)τ-ω* (stem *πετ-*) and *τίθ-η-μι*.
3. (Vowel raised) *πέθ-ω* (stem *πιθ-*) and *εἶ-μι* (stem *ι-*).
4. (Nasalised) *πιτνά-ω* (stem *πετ-*) and *πετ-άν-νυ-μι*.

Verbs of the remaining three classes (5, 6, 7) belong almost entirely to the ordinary or *-ω* conjugation, characterised by the thematic vowel. In Latin the other or *-μι* conjugation is almost lost, except in isolated forms like *es-t*, *vol-t*, *fer-t*, *i-mus*: and the 'thematic' or 'connecting vowel' characterises all Latin conjugation.

Formation of Present-stem.

I proceed to examine the different classes of Present-stem rather more in detail, following mainly the remarks of Curtius ('Temp. und Modi,' and 'Das Verbum,' as above).

1. Verbal-stem unaltered.

1. Curtius ('Temp. und Modi,' p. 74) suggests that among the 'unaltered' present-stems should be included verbs whose stems have undergone 'strengthening,' but in which the strengthened form has become stereotyped so to speak as the *only* existing or traceable form, and the unstrengthened form is quite obscured, e. g. *γεύω*, *δεύω*, *ἀλείφω*, *ἀμείβομαι*; and (with nasal) *jungo*, *prehendo*, *scando*, *incendo*: also *dūco*, *dīco*, *fīdo* (on the ground that their stem-vowel is only lengthened, not increased). He allows however that philologically these forms may be assigned to the third and fourth classes respectively: and it seems to be a needless hair-splitting not so to class them.

2. Reduplicated Present-stems.

2. Reduplicated Present-stems are rare in Latin, which (as

we have already seen in the case of the Perfect-stem) has retained this primitive method of strengthening but little: it seems that *gigno* (*gi-gen-o*), *si-sto* (= *ἰ-στη-μι*), *sero* = *se-so* (stem *sa-* in *sa-tum*), and *bi-bo* are the only certain examples.

Formation
of Present-
stem.

In Greek the vowel of the reduplicated syllable is generally *i* (not *e* as in perfect-stem, p. 188), e.g. *δι-δο-* (*δο-*), *ἰ-στα-* = *σι-στα*, *τι-θε* (root *θε-*, on change to *τ* see p. 50): *ἰ-η-μι* = *γι-γα-μι*: *διζημαι* = *διδῃμαι* (by assimilation, p. 76). Compare also *κί-χρημι* (*χρα*); and *δί-δη* (Π. xi. 105), *δι-δέντων* (Od. xii. 54), imperat. from a stem *δί-δη* (root *δε-* of *δέ-ω*); *βί-βάς* part. pres. stem *βα*: *πίμ-πλη-μι* and *πίμπρημι* (*πλα-* and *πρα-*) introduce a nasal into the reduplication. In these forms the final vowel of present-stem is often raised in the singular only, e.g. *δίκω-μι* but *δίδω-μεν*, *ἴη-μι* but *ἔε-μεν*: compare Sanskrit *da-dā-mi*, *dad-mas*, where *a* is lost.

In the ordinary conjugation we have *γίγ(ε)νω*, *πίπ(ε)τω*, *μίμνω* = *μ-μέν-ω*, to which Schleicher adds *ἴζω* = *ἴδγω* (p. 76) = *ἰέδγω* = *σι-sedγω*, from root *εδ* = *sed*, see above on Latin *sīdo*. [But it would be simpler to rank *ἴζω* = *ἴδγω* in class six with suffix *γα*: for even if *sīdo* be rightly explained as above, it is not necessary to assume a precisely similar development in Greek from the same root *εδ* = *sed*.] *Γινώσκω*, *δι-δράσκω*, *τιτύσκομαι*, *πιφαύσκω* come also under class seven, being formed by addition of *σκ*. In the intensive forms *παιπᾶλλω*, *δαιδάλλω*, *ποιπνύω*, *δειδίσκομαι*, etc., the reduplicated syllable is intensified, no doubt as being the significant part of the word: but as the consciousness of the meaning conveyed by it was lost, emphasis was no longer laid on that syllable. On the contrary, it became weakened; and what was originally a formative element became merely mechanical, the intensive or frequentative or desiderative force disappearing altogether. Thus *μ-μέο-μαι* (root *μα-*, *με-*, in *me-t-ior*, etc.) originally = 'I frequently measure myself,' i.e. by some one, and so 'copy,' 'imitate,' has entirely lost its frequentative force. Latin *imitor*, *imago* are possibly weakened forms of *mi-mi-tor*, *mi-ma-go*, formed on the same principle from the same root.

3. The vowel of the verbal-stem or root is raised irregularly

3. Vowel of
Verbal-stem
raised.

Formation
of Present-
stem.

in the pres. indic. of some primitive verbs, e. g. εἶ-μι, εἶς, εἶ, εἶσι; but ἴμεν, ἴ-τε (stem ι): φη-μί, stem φα-. The Latin stem *i-* is raised to *ī* in *īs, ūt, īmus, ūtis*; but *ēo, ē-u-nū*.

In the ordinary conjugation of Greek verbs the raising is more regular throughout the present-stem, the unstrengthened form being often visible in 2 aor. (see pp. 199, 200), e. g. φεύγ-ω (φύγ-), λείπ-ω (λιπ-), λήθω (λαθ-), τήκω (τακ-), τρώγ-ω (τραγ-), πλώω, the two last having the second stage of intensification (see pp. 53, 54). Certain verbs in -ω from stems in *υ* have had the stem raised to *ευ*, but the *υ* of the stem has passed into the consonantal sound *f*, and has thus been lost in present-stem (as in gen. γλυκέ-ος=γλυκέf-ος, see p. 119), remaining as *υ* before a consonant in other parts of the verb. Thus ρέ-ω=ρέf-ω, ρεύ-σομαι (stem ρυ- in ἐρρύ-ην); compare also πλέ-ω, χέ-ω, πνέ-ω.

Curtius arranges the verbs under this head in two divisions; (a) those which exhibit completed strengthening by an addition of vowel sound, i. e. *ει, ευ* from *ι, υ*; as in ἀλείφω (cp. ἀλήλιφα, λιπ' ἐλαίφ, λίπαρος, etc.); εἶδομαι (root *fid*); πείθω (ε-πιθ-ον); κεύθω (κύθε aor., κεκύθωσι); πεύθομαι (Homeric, cp. πυθ-έσθαι etc.); ρέω, χέω=σρέfω, χέfω (cp. ἐρρύ-ην, ε-χυ-το, etc.); (b) those in which the strengthening only appears in the increase of quantity of the stem-vowel, e. g. *α* to *ā* or *η* (*α* being by its nature incapable of receiving additional vowel sound, see p. 53), as in λήθω (λαθ-), τήκω (τακ-); or *ι, υ* to *ī, ū* (instead of to *ει, ευ*), as in ἦδομαι (root *σfaδ* of ἀνδάνω, cp. εἶδ-ον, etc.), λήθω (λέ-λαθ-ον), τριῖβ-ω (ε-τριῖβ-ην), φρυγ-ω (ε-φρυγ-ην)¹. This simple increase of quantity is all that is exhibited by the Latin present-stems which fall under this head—the weakness of the Latin vowel-system having all but extinguished diphthongs and made a full increase, such as from *ι, υ* to *ει, ευ*, impossible. *Dīco* (root of *in-dīc-are*, Greek δίκ-η) and *fīdo* (*fīdes*) are analogous forms to τριῖβω (τριῖβη): but the change was probably much more formal and meaningless to the Romans than to the Greeks, who seem to have retained some consciousness of its purpose.

¹ Curtius ('Das Verbum,' I. pp. 218–226) enumerates fifty-eight Greek verbs under this class, giving to its two subdivisions the titles 'Diphthongische' and 'Monophthongische Zulaut.'

Sanskrit exhibits the same processes as Greek. Thus—

i of root is raised to ē=ai: *sidh*, *sēdhāmi* (cp. *λατ*, *λείπω*).

u " " " to o=au: *ush*, *śahāmi* ('burn,' cp. *φύγ*, *φεύγω*).

i is not raised to ī as in Greek *ῑ*: but u is sometimes raised to ū, e.g. *grhāmi* ('veil,' cp. *κεύθω* and Zend *gaozaiti*).

4. The different results of the principle of Nasalisation in the formation of Present-stems may be thus arranged:—

Formation of Present-stem.

4. Nasal sound inserted.

(1) Nasal introduced into the body of the root, chiefly in Latin, e.g. *tango* (old form *tago*, pp. 199, 200), *pango* (older *pago*), *frango* (*fractus*, *fragor*), *figo* (*fig-i*), *linguo*, *tundo*, *iungo* (*iug-um*), etc., etc. This is common to Latin and Sanskrit [cp. e.g. *yu-ná-g-mi* 1st sing., *yu-ñ-g-más* 1 plur. with Latin *iu-n-go*, *iungimus* from root *yug* (*iug*)], but almost unknown in Greek; *σφίγγω* (*σφιγ-μός*), *ἐλέγχω* being perhaps the only cases where it alone is employed, though it is combined with a nasal syllable in a good many stems, such as *λαμβ-άν-ω*, *θιγγ-άν-ω* (*λαβ-*, *θιγ-*), for which see below.

(2) Nasal appended to the root:—

Appended.

(a) After vowels—*πίν-ω*, *τίν-ω*, *φθίν-ω*, *φθάνω*, *δύνω* as compared with *ἐπιον*, *τίω*, *ἔφθι-το*, *φθά-μενος*, *δύ-ω*. The roots *γεν*, *τεν*, *μεν*, *φεν* (in *γέ-γον-α*, *τόν-ος*, *μέ-μον-α*, *φόν-ος*) are perhaps nasalised forms of still older roots which appear in the forms *γέ-γα-α*, *τα-τός*, *μέ-μαα*, *πέ-φα-μαι*. In *κρίνω* and *κλίνω* the nasal passes into other tenses also.

(b) After consonants—*κάμν-ω* (*ἔ-καμ-ον*), *δάκ-νω*, and *τέμνω*; *sperno*, *temno*, *pōno*=*posno*, *posin-o* (*positus*).

(3) Addition of nasal syllables—*νε*, *να*, *νη*, *νυ*, and *αν*, e.g. *ικνέ-ομαι*, *κυνέ-ω*, *οἰχνέ-ω*; *κιννά-ω*, *πιτ-νά-ω*, *δεικα-νά-ο-μαι* (*κεράν-νυμι*, *πετάν-νυμι*, *δείκνυ-μι*); *ζεύγνυ-μι*, *ῥήγνυμι*, *ἄλλνυμι*=*ἄλνυμι*, *σκίδνυμι*, *κίρηνυμι*; *ικάν-ω*, *αὐξάνω*, *ἀμαρτάνω*; and (with inserted nasal also) *λαμβ-άνω*, *θιγγάνω*, *χανδάνω*, etc.

Addition of nasal syllables.

Schleicher (Comp. § 293) regards these nasal syllables as pronominal additions. Curtius¹, on the other hand, considers *να*, *νυ* as primitive stem-forming syllables, 'about which little else can be said than that they are used to make other stems besides

¹ 'Das Verbum,' I. p. 157 (Engl. transl. p. 108).

Formation
of Present-
stem.

verb-stems.' Thus the formation of ὄρ-νυ-μεν, σκίδ-να-μεν may be compared with that of ἵπ-νο-ς, Lat. *som-nu-s* = *sop-nu-s*, Skt. *svap-na-s*; or Skt. *dhṛishnú-s*, 'bold,' cp. with *dhṛish-nó-mi*, 'I am bold' (root *dharaṣ*, *θάρο-ος*), to which would correspond in Greek (did such forms exist) *θαρσ-νυ-ς*, *θαρσ-νυ-μι*. Noun-themes in *na*, *nu* seem to have had the force of 'nomina agentis' in Skt. Curtius, regarding the nasal syllable appended (2) as earlier in time to the nasal syllable inserted (1), thinks that the latter may be due to an anticipation (*Vorklingen*) of the affixed nasal: so that e. g. **λαβ-νω*, **λαβ-ανω* became *λα-μ-β-άνω*; cp. the ordinary form *τύ-μ-π-ανο-ν* with the (1 earlier) form *τύπ-ανο-ν* (*κροτάλων τυπάνων* τ' *λαχί* Hymn Hom. xiv. 3)—if this latter be not a variety *metri gratia*.

5. Addition
of *t* sound.

5. The strengthening of the verbal-stem by addition of the dental tenuis *t* is chiefly found in Greek: e. g. in two verbs only after a vowel, viz. *ἀνύτω* and *ἀρύτω* (Attic for *ἀνύω*, *ἀρύω*); in two after a guttural, viz. *πέκτω*, beside *πέικω* and *πέκω*, and *τίκτω* (stem *τεκ-*); and often after labials, *β* and *φ* being changed by assimilation to *π* (p. 74), e. g. *βλάπτω* (*βλάβ-η*, Epic *βλάβ-εται*), *καλύπτω* (*καλύβ-η*), *τύπτω* (*ἑ-τύπ-ην*), *ἐρέπτω* (later form for *ἐρέφ-ω*), *θάπτω* (*τάφ-ος*), etc. The only analogous forms in Latin are *pect-o*, *flect-o*, *nect-o* (*nectui* = *nec-s-ui*), *plect-o* (*πλέκ-ω*). Schleicher regards the *t* as a pronominal stem *ta*: but it is more probably a purely phonetic increase of sound, as e. g. in *πτόλις*, *κτείνω*, *πτόλεμος*, beside *πόλις*, *καίνω*, *πόλεμος*; compare *ὑπτ-ιο-ς* from stem *ὑπ-*, Latin *sup-*.

6. Addition
of *ya* (*j*).

6. The insertion of *ya* between stem and person-ending, which is the characteristic of the fourth class of verbs (chiefly intransitive), and also of the passive conjugation (see p. 177) in Sanskrit, appears in many Greek and Latin verbs. The *y* sound seems to have been uncongenial to Greek organs of speech; accordingly it is, generally speaking, either vocalised into *ι* or passes by assimilation into some other sound. The forms which it assumes may be thus arranged:—

In Greek *t*
j as vowel;

(1) *y* (*j*) sound appears as a vowel:

(a) As *ι*, in *ιδίω* (Sanskrit *svidyāmi*, compare *ιδρώς* = *σφιδ-ρώς*), *μην-ί-ω* (root *μαν-*), *ἑσθ-ί-ω* (Hom. *ἑσθ-ω*, strengthened from *ἑθ-ω*).

The *ι* is sometimes long (*μῆνιν*, II. ii. 769: compare Aesch. *Formation of Present-stem by ya.* Eum. 101): so that these forms should be reckoned parallel to Latin *audire*, etc. (*ι=ij*, see below).

(b) As *ε*, in *δοκ-έ-ω*, *γαμ-έ-ω*, *κυρ-έ-ω* (*κύρ-ω*, *κύρ-σω*), *πατ-έομαι* (*έ-πασ-άμην*, *παστός*), *φιλέω* (Epic *φίλαι* and *έφιλατο*), *στυγέω* (*έ-στυγ-ον*), the *-εω* of these verbs, which in other forms exhibit a shorter stem, being different from the *-εω* of ordinary derivative verbs (see Appendix B to ch. v. pp. 103, 104), though probably the distinction was forgotten.

(II) The *γ* sound (vocalised into *ι*) appears in a diphthong *γ as ι in a diphthong* as *ι* in a diphthong:

(a) Combined with the final vowel of a stem—*δαίω*, root *dā*, 'divide,' or *du* (*dah*), 'burn,' (so *έ-δά-η*), *μαί-ομαι* (*μά-σομαι*, *έμασάμην*), *ναίω* (*ξνασσα*), *καίω* (Attic *κάω*, fut. *καύσω*, stem *καφ*), *κλαίω*, *όπνίω* (*όπύ-σω*).

(b) Thrown back *within* the stem and combined with its vowel (as e.g. in *άμείνων=άμενίων*, *μέλαινα=μελάνια*, *σώτειρα=σωτέρια*, and many others): thus *φαίνω=φάν-γω* (*έ-φάν-ην*), *κτείνω=κτένγω* (*έ-κτον-α*), *μαίνομαι* (another formation from root *μαν*-, see *μην-ί-ω* above: and so with many verbs ending in *-μαινω*, derivatives from nouns in *-μα(τ)*=an older *-μαν*, e.g. *όνομαίνω*, *δειμαίνω*, *θauμαίνω*; *τεκμαίρ-ομαι* (*τέκμαρ*), *καθαίρω* (*καθαρός*), *ίμείρω* (*ίμερος*); *αίρω*, *είρω*, (Latin *sero*), *φθείρω* (*έφθάρ-ην*), *χαίρω* (*έχάρ-ην*), *κρίνω* (*κρίν-ω*, fut.).

(III) The *γ* sound passes into a double consonant by assimilation (see above, p. 75): *γ as consonant by assimilation.*

(a) By pure assimilation from *λγ* to *λλ*, e.g. *άλλομαι* (Latin *sal-i-o*), *στέλλω* (*έ-στάλ-ην*), *σφάλλω=σφάλγω* (*έ-σφάλ-ην*), *βάλλω* (*έ-βαλ-ον*), *όφέλλω=όφέλγω*, which also passes into *όφειλω* (II. b, above).

(b) From *κγ*, *χγ*, *γγ*, *τγ*, *θγ* to *σσ*, e.g. *φυλάσσω* (*φυλάκ-γω*), *ταράσσω* (*ταράχ-γω*, compare *ταραχ-ή*), *άλλάσσω* (*άλλάγ-γω*, compare *άλλαγ-ή*), *λίσσομαι* (*λίτγo-μαι*, compare *λιτ-ή*), *κορύσσω* (*κορύθγ-ω*, *κόρυθ-ος*). The process of change in these cases has already been described, ch. iv. p. 75. Full lists of forms in illustration are given by Curtius ('Das Verbum,' I. pp. 311-317). In noun forms we may compare *ήσσω=ήκγων* (*ήκ-ιστος*), *έλάσσω*

Formation
of Present-
stem by *ya*
(*ja*).

= ἐλάχων (ἐλάχ-ιστος), κλίσσα = κλίσκα, χαρίσσα = χαρίεν-γα: the two latter showing the feminine suffix *ya*, which in μέλαινα, σώτεια, etc., noticed above, passes back into the stem as the *i* sound of a diphthong (π. δ).

(c) From *dy* (and sometimes *gy*) to *z*: e.g. ἔζομαι (ἔδγομαι, root ἔδ- of ἔδ-ος, *sedes*), ἔζω (ἔδ-ωδα), φράζω (πέφραδ-ον), σχίζω (root σχιδ in σχίδη), κλύζω (κλύδων): also κράζω (=κράγγω, cp. κέ-κραγ-α), στάζω (σταγ-ών), ῥέζω (ῥεξα=ῥεγσα, ῥέχθεν, etc.), ἐλελί-ζω (ἐλελίχ-θη).

3 (i) in Latin
Present-
stem.

In Latin the *i* sound remains, e.g. in verbs in *-io* of 3rd conjugation before *o* and *u* (*capi-o*, *capi-unt*) and the conjunctive *a* (*capi-ant*), and so-called fut. indic. *e* (*capi-ent*). Where the thematic vowel becomes *i*, the two coalesce (*capis*, *capit*, *capimus*, *capitis*). We should have expected *ī* throughout: and *capīs* and *capīt* were probably the original quantities; *capimus* and *capitis* arising partly from analogy with *capio*, *capunt*, partly from the general tendency to shorten an unaccented syllable, aided by the desire to distinguish the forms from those of the 4th conjugation of derivative stems in *ī* (*audīmus*, *auditis*, etc.). Other Latin verbs of this class are, e.g. *jaci-o* (*jac-tus*), *fodi-o* (*fossus*=*fod-tus*), *fugi-o* (*fūg-i*), *ag-o*=*agy-o* (root *ag* in *ad-ag-ium*, etc., etc. In *ero*=*esio*, a present formation from the root *es* (compare ἔσομαι for ἔσ-ογομαι), the *i* sound has disappeared before *o* and *u*. Assimilation analogous to that observed in Greek is possibly seen in *pello* (πάλλω, *pe-pul-i*)=*pel-yo*, *percello*, *tollo* (*te-tul-i*), *vello*, *fallo*, *curro*, etc. But this kind of assimilation is not familiar to Latin, which e.g. keeps *sal-i-o* beside Greek ἅλλομαι, *alius* beside ἄλλος, *medius* beside μέσσος, *melior* beside μᾶλλον: and it is possible that in these and similar forms with *ll*, *rr*, we have a doubling and so increase of the consonantal sound with the same object as that of the vowel increase in verbs of class 3 (p. 206).

'Derivative'
Verbs with
suffix *ya*
not includ-
ed under this
head of Pre-
sent-stem.

[N.B. In this class have been included only those verbs in which the suffix *ya* appears to have been used in the formation of the present-stem from a verbal-stem, which latter is traceable in other forms of the verb. From these must be

distinguished a common formation of derivative verb-stems ^{Derivative Verbs with suffix *ya*.} by the addition of the same suffix *ya* to nominal stems, in the conjugation of which the *i* sound (or its effects) is retained throughout all tenses¹. These are in Greek the 'contracted' verbs in *-aw*, *-ew*, *-ow* (from an original *-ayw*, *-eyw*, *-oyw* = Sanskrit *-ayāmi*, the regular termination of one class of verbs (10th) in Sanskrit) from which the *y* sound has dropped, e. g. *τιμάω*=*τιμάjw*, from noun-stem *τιμα-*; *φορέω*=*φορεyw*, from stem *φορε-* (*φορο-*); *ὀρθόω*=*ὀρθoyw*, from stem *ὀρθo-*. Corresponding formations in Latin are the ordinary 1st and 2nd conjugations, and verbs in *-o* of the 3rd, e. g. *amo*=*amao*, from *amajo*; *moneo*, from *moneyo*; *statuo*, from *statuyo*: the *ā*, *ē* of the 1st and 2nd being the result of combination with the connecting-vowel, as in the contracted forms *τιμῶμεν*=*τιμά-o-μεν*, *φοροῦμεν*=*φορέ-o-μεν*; while in the *-uo* forms (= *-ow*), the vowels remain uncombined (*statuis*, *statui-mus*), except in the supine stem (*statūtum*=*statu-i-tum*). Greek verbs in *-iw* (*-iyw*) where *i* remains through all tense-stems, e. g. *ιδίω* (root *id*), *μηνίω*, *κονίω* = *κονίyw*, seem parallel to Latin 4th conjugation forms in *-io* as compared with 3rd conjugation *cupio*, etc.: and the long *ī* found in some of them (*κονίω*, *μηνίω*) shows a contraction of *i* sound with another vowel. The terminations *-aζw*, *-oζw*, *-ιζw* probably contain the suffix *ya* assimilated (see p. 76): and in *-αινω*, *-ῠνω* (*λείπεινω*, *θαρσύνω*) the *i* sound is thrown back into the stem as above in II b. Latin desiderative forms in *-tur-io* are formed from nominal stems in *-tor* by addition of *ya* (*i*), e. g. *partur-i-o* (*partor*), *ēsurio*=*ed-turio*.]

7. The verb-forms in *-σκω*, *-σco* ('Inchoative' verbs)² are especially interesting because we can in this case prove a particular meaning for the additional element in the present-stem, such special meaning having (as already pointed out) been lost sight of in the other forms that have been discussed. The Inchoative (or Inceptive) meaning is obvious in many verbs both Greek and Latin (especially the latter), e. g. *γνρά-σκ-ω* (cp. *sene-sc-o*), *ἡβά-σκ-ω* (*pube-sc-o*), *ἀναβιώ-σκ-ο-μαι* (*revivi-sc-o*);

¹ See Appendix B to Chap. v. pp. 103, 104.

² See Curtius, 'Elucidations,' pp. 141-144.

Formation
of Present-
stem by σκ-
(sc-).

and can be traced in many others, e. g. *μ-μνή-σκ-ω* (*re-min-i-scor*), *ἀλδ-ή-σκ-ω* (cp. *adole-sc-o*), *γι-γνώ-σκ-ω* (= *gnōsco*), and *δι-δά-σκ-ω*, 'I make to learn,' which is the correlative (with causal sense) of *δι-sc-o*, 'I learn.' In other forms (e. g. *βλώσκω*, *θρώσκω*, *παίσχω*, *υλίσχω*) there is no historical trace of the meaning. The 'Iterative' forms of imperf. and aor. in *-σκον*, common in Homer, are an isolated preterite of this formation of the present, e. g. *ἔχε-σκ-ον*, *ἴδε-σκ-ον*, *μέν-ε-σκ-ον*, etc. Curtius (*Elucidations*, pp. 142, 143) explains the connection between the two thus:—The Inchoative meaning consists essentially in the fact that the action comes to pass *gradually*; and the gradual realization (which language originally intended to denote by these present-forms) and the repetition of an action were regarded by language as nearly akin. Hence these iterative forms in *-σκον* are the opposite to the sudden 'momentary' action of the aorist.

Connection
between
Greek and
Latin Incho-
ative forms.

The forms in *-σκω*, *-sco* are also interesting as showing the especially close connection between the Greek and Latin branches of the Indo-European family. Sanskrit has something like it in the addition to a very few verbs of *chh*, the regular representative of *sk* in Indian languages¹: but there is no trace of that specific meaning of the additional element which in the two classical languages is retained to so great an extent as to give the name 'Inchoative' to the class of verbs. The mode of adding the *σκ-*, *sc-*, is also very similar in the two languages: 'We need only compare (*g*)*no-sc-o*, (*g*)*na-sc-or*, *cre-sc-o* with *γι-γνώ-σκ-ω*, *πι-πρά-σκ-ω*, *κι-κλή-σκ-ω*, the derivative *ἡβδ-σκ-ω*, *γηρά-σκ-ω* with Latin *ira-sc-or*; *ἀλ-ί-σκ-ο-μαι*, *στερ-ί-σκ-ω* with Latin *ap-i-sc-or*, *pac-i-sc-or*; and *διδά-σκ-ω*, *λά-σκ-ω*, in which a guttural (i. e. of stem *διδαχ-*, *λακ-*) is lost with *disco* (cp. *doc-eo*), to perceive that the laws of formation are the same.' Both languages unite the Inchoative element to a consonantal stem by the intervention of a thematic (connecting) vowel (*i*, *ē*, or *e*); but whether Curtius' statement 'that the genius of language, which is ever intent on delicate distinctions, has separated

¹ Thus from root *gam* (go) is formed *gacchā-mi*; from *ish* (wish) *icchā-mi*; from *yam* (restrain) *yacchā-mi*. These forms stand for *gaskami*, etc.; *chh* representing *sk*, as in *chāyā* (shade), Greek *σάιδά*.

the Iterative forms from the Inchoatives, at least in part by the connecting (thematic) vowel,' is sufficiently borne out by the evidence, may be doubted. Language may sometimes avail itself of purely euphonic differences to express differences of meaning (as e.g. with the variations of the *a* sound, p. 36); but the thematic vowel is not purely euphonic (pp. 165, 166), nor is there any proof of its being so used here.

The origin of the element *σκ*, *sc-* is unknown.

Imperfect (Greek).

Formed from the present-stem by prefixing the augment, with secondary person-endings: e.g. (a) with connecting-vowel, *ἔ-φερ-ο-ν*, *ἔ-φερ-ες*, etc., 3 plur. *ἔ-φερ-ο-ν* = *ἐφερον*: (b) without connecting-vowel, *ἐτίθη-ν*, *-η-ς*, *-η(τ)*, (stem-vowel raised in singular), 1 plur. *ἐτίθε-μεν*, 3 plur. *ἐτίθε-σαν* (a compound formation, see p. 176). From *εἰμι* are found two forms of imperfect, (a) *ἔον* = *ἔσ-ο-ν*, with connecting-vowel and augment omitted; (b) *ἦν*, *ἦ*. Sanskrit forms from the corresponding stem *as-* a 1st preterite *ās-a-m* = *a-as-a-m*, the vowel *a* being appended to the stem to make the inflection easier. This appears in another form of 1 sing. imperf. from *εἰμι* (*ἔσ-μι*), viz. *ἦα* = *ἦσα* (Ionic *ἦα* without augment, as in Il. iv. 321, whence Attic *ἦ*), and in 3 plural *ἦσαν* = *āsant*, or *ἔσαν* = *erant*: *ērām*, *ērās*, &c. cannot correspond to *āsām*, but have some analogy with the Homeric form *ἔην*. The stem *ἐα* = *ἔσα* (with augment *ἦα* = *ἔ-(σ)α*) became in time *έο*, *έε*, the *a* adopting the analogy of the thematic vowel: hence, with the secondary termination *-ν*, *έο-ν*, partic. *έών* = *εο-ντ*, &c.: or (from *έε*) *έε-ν*, *ἦν*. Putting these forms together, we have—

| | | | |
|-------------------------------------|--|---|-------------------|
| 1 Sing. <i>ās-a-m</i> , | <i>ἦα</i> = <i>ἦσα(μ)</i> , | [<i>ἦν</i> (<i>ἔην</i> Hom.), | [<i>erā-m</i> , |
| 2 „ <i>ās</i> (Vedic), | | <i>ἦσ-θα</i> , | <i>erā-s</i> , |
| 3 „ <i>ās-t</i> , <i>ās</i> (Ved.), | <i>ἦε</i> = <i>ἦσ-ε</i> , <i>ἦε(ν)</i> , | <i>ἦν</i> (<i>ἦς</i> Doric), | <i>erā-t</i> , |
| 1 Plur. <i>ās-ma</i> , | | <i>ἦμες</i> , | <i>erā-mas</i> , |
| 2 „ <i>ās-ta</i> , | | <i>ἦτε</i>], | <i>erā-tis</i>], |
| 3 „ <i>āsant(t)</i> , | | <i>ἦσαν(τ)</i> or <i>ἔσαν(τ)</i> = <i>erānt</i> . | |

A similar formation in Latin from the stem *fu-*, i.e. *fu-am*, is generally supposed to survive in the termination *-bam* of the Latin composite imperfect (see below, p. 224). In Sanskrit the

vowel *a* is *always* raised to *ā* before *m* or *v* of the person-endings (e.g. *bhar-ā-mi*, *bhar-ā-vas*, *bhar-ā-mas* of 1st sing. dual and plur.: but *bhara-si*, *bhara-ti*, etc. throughout the rest of the pres. indicative).

Relation of
Weak to
Strong
Aorist.

4. *The Weak or Compound Aorist* (1 aor.).

1. The function of this tense is the same as that of the Strong Aorist, viz. the expression of momentary action in past time. But whereas the Strong Aorist is formed in general only from verbs which form a present-stem distinct from the pure verbal-stem (see p. 200), the Weak Aorist is formed from all verbs whose present-stem is the same as the pure verbal-stem (e.g. *ἄρχω*, *λέγω*, *γράφω*), or a nominal-stem increased by *j* (e.g. *ἐλπίζω*, *φυλάσσω*, *τελέω*, pp. 208–210). Comparatively few verbs, e.g. those with vowel-raising or dental suffix in the present-stem (above, pp. 206, 208), as *πείθω*, *λείπω*, *τίπτω*, and several verbs in *-μ*, have both forms of aorist: and in some cases where both forms are found, they are used to denote an intransitive or neuter, and a transitive or active meaning respectively, e.g. *ἔστην*, *ἔστησα*; *ἔβην*, *ἔβησα*. Many verbs, however, along with the weak aorist form, exhibit a so-called 2 aorist pass. formed from the simple or strong aorist-stem with the addition of *ε*, *η* (see p. 226): e.g. *ζέγγνυμι*, *ἔξενξα*, *ἐξέγγην*: *βλάπτω*, *ἔβλαψα*, *ἐβλάβην*. In the later periods of the language the newer form, i.e. the weak or compound aorist, the use of which had become widely extended with verbs from which it was impossible to form a simple aorist (e.g. the large class of derivative verbs in *-αω*, *-εω*, *-οω*, *-ενω*, *-ιζω*, *-αζω*, *-αινω*, *-υνω*, etc.), appears to have superseded the older form, even where the conditions for a strong aorist formation were found, e.g. *βλάπτω*, *ἔβλαψα*, but not *ἔβλαβον*.

2. *Formation of the Weak Aorist*¹. The distinctive mark of

¹ The characteristic of this formation being the letter *σ*, it is sometimes called the 'sigmatic' aorist. This element *s* (*σ*), representing the root *as* (*εσ-*) of the substantive verb, enters into verb-formation in various ways: (1) in single person-endings, such as Greek *ἔδο-σαν* (p. 176); (2) in a preterite or aorist form—the 'weak' aorist in *-σα*; (3) in a perfect stem in Latin *-si* (p. 196); (4) in the pluperfect of Greek and Latin, *ἥδε-(σ)α*, *vide-tum* (p. 223); (5) in 'futurum exactum,' *λελύ-σομαι*, *solue-ro* (p. 224); (6) in the Greek future in *-σω=s+γα* (p. 213), and the Latin future

this tense (besides the augment, which it shares with other forms) is σ , or more commonly $\sigma\alpha$. Traces of the first are seen in the Homeric conjunctive forms with short σ ($\acute{\epsilon}\alpha\sigma\sigma\mu\epsilon\nu$, $\phi\upsilon\lambda\acute{\alpha}\xi\sigma\mu\epsilon\nu$, etc., which are non-thematic; the ω , η of ordinary conjunctive forms being the result of coalescence of the conjunctive mood-sign α (a) with the 'thematic vowel' of ordinary stems, extended by analogy to non-thematic forms ($\acute{\iota}\omega\mu\epsilon\nu$ cp. with the Homeric and truer form $\acute{\iota}\sigma\mu\epsilon\nu$). The second formation in $\sigma\alpha$ is common to all Greek dialects. This 'sigmatic' element is generally traced to the 1st preterite of the verbal stem $as-$ ($\acute{a}sam$, $\acute{a}s$, $\acute{a}st$, see above, under head of Imperfect, p. 213) added to the pure verbal-stem like an auxiliary verb; the initial a of as disappearing as in Sanskrit (a) $smas$, Latin (e) sum ; and the nasal μ or ν in 1 sing. falling away, as it does in acc. sing. $\pi\acute{o}\delta a = p\acute{a}dam$, $pedem$. This retention of a becomes characteristic of the weak aorist, as of the perfect, the only regular exceptions being 3 sing. indic. act. $\acute{\tau}\delta\epsilon\iota\acute{\xi}\epsilon$ and 2 sing. imper. act. $\delta\epsilon\iota\acute{\xi}\sigma\upsilon\nu$. There is, however, reason to suppose that the \acute{a} (as in the case of the perfect, see above, p. 193) was originally confined to 1 sing. and 3 plur. (primitive $-am$, $-ant$, Greek $\acute{\alpha}$, $\acute{\alpha}\nu$), and was gradually extended by analogy to the other person-endings, to the Middle forms, and to Infinitive and Participle; the conjunctive, however, being always formed without it.

This supposed 'auxiliary' formation of the Sigmatic Aorist has much to recommend it, though the parallel sometimes adduced from Sanskrit $a-dik-sham$ (sh euphonic for \acute{s}) is erroneous; the corresponding Greek form to this being $\acute{\tau}\delta\epsilon\iota\acute{\xi}\sigma\upsilon\nu$. It is difficult, however, to see any essential difference between this formation and that of the perfect stem in $-ka$; and why should not σ , \acute{a} of the aorist be 'stem-forming' additions to the verbal stem, analogous to κ , \acute{a} of the perfect? $\acute{\epsilon}-\beta\eta\sigma-\acute{a}$ and $\beta\acute{\epsilon}-\beta\eta\kappa-\acute{a}$ would then stand in precisely analogous relations to the stem as seen in $\acute{\epsilon}-\beta\eta-\nu$: and no further explanation of the σ would be necessary than of the κ (above, pp. 193, 194).

formations in $-so$, $-sim$, $-sere$ (p. 221); (7) in the Latin subjunctive forms $lege-rem$, $lege-rim$, $legi-ssim$ (p. 227); (8) in desiderative formations, e.g. Sanskrit $pipi-sha-ti$, 'he wishes to drink,' cp. Greek $\delta\rho a-\sigma\epsilon\acute{\iota}\omega$, Latin $vi-so$.

**Formation
of Weak
Aorist.**

The double σ common in Homeric forms may sometimes be explained by the first σ being part of the verb-stem, e.g. $\epsilon\sigma\sigma\alpha$ from $\epsilon\sigma\nu\mu$ = $\epsilon\sigma\nu\mu$, root fes ; $\epsilon\delta\iota\kappa\alpha\sigma\sigma\alpha$, $\kappa\acute{o}\mu\iota\sigma\sigma\alpha$, and similar forms from verbs in $-\zeta\omega$, where the first σ is due to assimilation of final δ ; $\delta\acute{\alpha}\sigma\sigma\alpha\sigma\theta\alpha\iota$ = $\delta\alpha\tau$ - σ -, stem $\delta\alpha\tau$ -; and perhaps $\epsilon\tau\epsilon\lambda\epsilon\sigma\sigma\alpha$ from stem $\tau\acute{\epsilon}\lambda\epsilon\varsigma$, the full form being lost in pres. $\tau\epsilon\lambda\acute{\epsilon}\omega$. It is more probable however that in this last case, and possibly in some of the others, $\sigma\sigma$ is due to the epic licence which we see in 'Οδυσσεύς beside 'Οδυσεύς , etc.; and this is certainly true of the forms with double σ from vowel-stems, $\epsilon\lambda\alpha\sigma\sigma\alpha$, $\kappa\omicron\tau\acute{\epsilon}\sigma\sigma\alpha\sigma\theta\alpha\iota$, etc.

With stems in λ , ρ , μ , ν the laws of Greek euphony did not preserve the σ of the weak aorist in contact with these consonants (except $\rho\sigma$ in a few Epic forms, $\epsilon\kappa\epsilon\rho\sigma\epsilon$, $\kappa\acute{\upsilon}\rho\sigma\alpha\varsigma$, $\phi\acute{\upsilon}\rho\sigma\omega$, $\delta\rho\sigma\alpha$; and $\lambda\sigma$ in one form $\epsilon\kappa\epsilon\lambda\sigma\alpha$, which survived to later times). In Aeolic the σ was assimilated (p. 74) to the stem-consonant, e.g. $\acute{\epsilon}\nu\epsilon\mu\mu\alpha\tau\omicron$, $\epsilon\sigma\tau\epsilon\lambda\lambda\alpha\nu$, $\acute{\epsilon}\gamma\acute{\epsilon}\nu\mu\alpha\tau\omicron$, $\epsilon\tau\epsilon\upsilon\nu\alpha$ (cp. Homeric $\delta\phi\epsilon\lambda\lambda\alpha$), and possibly this may have been the older process. Other dialects dropped the σ and lengthened the stem-vowel in compensation; e.g. $\acute{\epsilon}\nu\epsilon\iota\mu\alpha$ = $\acute{\epsilon}\nu\epsilon\mu$ - $\sigma\alpha$, $\epsilon\sigma\tau\epsilon\iota\lambda\alpha$ = $\acute{\epsilon}\sigma\tau\epsilon\lambda$ - $\sigma\alpha$, $\acute{\epsilon}\gamma\acute{\epsilon}\iota\mu\alpha\tau\omicron$ = $\acute{\epsilon}\gamma\epsilon\nu$ - $\sigma\alpha\tau\omicron$. In Doric this was a pure lengthening of the vowels α , ϵ ; e.g. $\epsilon\phi\acute{\alpha}\nu\alpha$, stem $\phi\alpha\nu$ -; $\acute{\alpha}\gamma\gamma\eta\lambda\alpha$, stem $\acute{\alpha}\gamma\gamma\epsilon\lambda$ -: Ionic and Attic raised α to η , and ϵ to $\epsilon\iota$, e.g. $\epsilon\phi\eta\nu\alpha$, $\acute{\alpha}\gamma\gamma\epsilon\iota\lambda\alpha$; ι and υ were simply lengthened in all dialects, e.g. $\epsilon\tau\acute{\iota}\lambda\alpha$, $\eta\mu\acute{\upsilon}\nu\alpha$.

The forms $\epsilon\iota\pi\alpha$, $\eta\gamma\epsilon\gamma\kappa\alpha$ stand alone as unsigmatic forms with α , side by side with the reduplicated aorists $\epsilon\acute{\iota}\pi\omicron\nu$ and $\eta\gamma\epsilon\gamma\kappa\omicron\nu$. The α in these forms simply represents the ϵ or \omicron of the ordinary thematic vowel; and whatever were the influences which at first led to preserving the stronger sound, the analogy of weak aorist forms like $\eta\gamma\gamma\epsilon\iota\lambda\alpha$, $\acute{\epsilon}\nu\epsilon\iota\mu\alpha$ no doubt helped to perpetuate it.

The forms $\epsilon\sigma\sigma\epsilon\upsilon\alpha$, $\epsilon\chi\epsilon\upsilon\alpha$ (cp. $\epsilon\kappa\eta\alpha$, $\eta\lambda\epsilon\upsilon\alpha\tau\omicron$), for which loss of σ has sometimes been supposed, are the active forms corresponding to $\acute{\epsilon}\sigma\sigma\acute{\upsilon}$ - $\mu\eta\nu$, $\acute{\epsilon}\chi\acute{\upsilon}$ - $\mu\eta\nu$, the α of 1 sing. representing a primitive $-\nu$ of secondary inflection. The primitive form was thus e.g. $\acute{\epsilon}\chi\epsilon\upsilon\text{-}\nu$, $\acute{\epsilon}\chi\epsilon\upsilon\text{-}\varsigma$, $\acute{\epsilon}\chi\epsilon\upsilon(\tau)$. . . $\acute{\epsilon}\chi\upsilon\mu\epsilon\nu$, $\acute{\epsilon}\chi\upsilon\text{-}\tau\epsilon$, etc., the stem-vowel being strengthened in the singular, as in some perfects (above, p. 190), and as in certain Sanskrit forms; e.g. from root vu ,

arāvam, *arōs*, *arōt* . . . plur. *aru-ma*, etc. *ἔχεν* (1 sing) became *ἔχεν* Formation of Weak Aorist. *ἔχεν*: the *ā* was then extended through all the persons of the active, and the old plural with unstrengthened root-vowel (*ἔχυν-μεν*, etc.) gave way to forms on the analogy of the singular (*ἔχεν-μεν*, etc.)¹.

A few sigmatic aorist forms (chiefly Epic) exhibit the weaker vowels *ε*, *ο* in place of *α*; e. g. *αἰέσσο*, *ἄξετε* (imperative), *θήσσο*, *δύσσο*, *ἴξεν* and *ἴξον* (3 pl.), *λέξσο*, *οἴσσο* (imper.), *ὄρσο*, *πελάσσο-τον* (imper.), *ἔχesson* (cp. *ἔχσσα*, *χέσαιμι*, etc.): Curtius would add *ἔπesson*, the so-called strong or 2nd aorist of *πίπτω*, which could not arise by phonetic weakening of *τ* from *ἔ-πετ-ον* (Aeol. and Dor.), because *τ* becomes *σ* only before *ι*. It must therefore, he says, = *ἔπετ-σο-ν*, and is to the form *ἔπessa* :: *ἐβήσσο* : *ἐβήσατο*. Or (to compare it with *ἔχesson*), *ἔπesson* : *πεσοῦμαι* :: *ἔχesson* (*ἔ-χεδ-σον*) : *χεσοῦμαι*.

The vowel of all vowel-stems is lengthened before *σ* in the weak aorist and future, *ἐποίησα*, *ποιήσω* (*ποιέ-ω*), *ἔλθω*, *λύσω* (*λύ-ω*). In derivative verbs in *-αω*, *-εω*, *-οω* (which all = *αγάμι* formed by suffix *γα*) the length of the vowel is natural as expressing a contraction; and from this large class of verbs it may have passed by analogy to others. A few exceptions are seen in such forms as *ἐκάλεσα*, *καλέσω*; *ἤροσα*, *ἀρόσω* (from *ἀρόω*), *ἤνεσα* from *αἰνέω*.

The conjunctive forms follow the analogy of pres. conj., *σ* alone marking the tense, e. g. *λύσω*, *λύση-ς*, etc., *λύ-σω-μαι*. In optative forms the suffix *ι* makes with *α* a diphthong—*λύσα-ι-μι*, etc. The 'Aeolic optative' in *-σεια* seems to be formed with the suffix *γα* (*ιη*, *ιε*, p. 185), but with the indicative weak aorist terminations; e. g. *λυσεια*, *-ας*, *-ε*, etc., instead of *λυσειην*, which would be expected on analogy of *τιθείην*, etc. The *α* of weak aorist-stem in these forms has sunk to *ε*; but a feeling that *α* was characteristic of this tense led to its retention in the suffix *-ια*, which usually becomes *ιε* or *ιη*, though the letter there had really nothing to do with the *tense* formation.

¹ This very neat (and convincing) explanation is given (as Brugman's) by De Saussure, 'Mémoire sur le Système Primitif des Voyelles,' p. 21.

5. *The Future Tense* (Greek).

Origin of
Future in
-σω (= εσω).

The characteristic Greek future termination in -σω is not (as has by some scholars been supposed) connected with the weak aorist -σα, except in being perhaps originally a tense formation from the same root *as* (εσ). From this root *as* (εσ) language developed a present form by the addition of *ya* (see above, p. 208), viz. *as-ya-mi*=in Greek *έσ-ιω* (a hypothetical form), the middle of which, *έσιομαι*, becomes *έσσομαι*. The suffix *ya* (ι) is perhaps identical with the root *ι*, 'to go,' seen in *ι-μεν*, *ι-ρε*: and if this be so, *as-ya-mi* or *έσ-ιω*='I go to be,' a natural mode of expressing future time by the addition of an auxiliary verb analogous to *je vais faire* in French, 'I am going to do' in colloquial English, and the Latin form *datum iri* for fut. infin. pass.

Traces of
the full
form -σιω.

The form -σιω, thus derived, has in most Greek dialects sunk (by omission of *ι*) to -σω. Doric however preserves traces of the fuller form, sometimes with *ι*, sometimes with *ε*, following *σ*. Thus on inscriptions are found *βοαθησίω*, *σπενσιώ*, *πραξιόμε* (*πραγ-σιω-με*), *βοαθησίοντι*, *χαριζιόμεθα*, etc.; Theocritus has future forms like *ολεσόμε*=*οιείόμε* (15. 133), *αλλησεύντι* (7. 71), *φσεύμαι* (3. 38); Aristophanes, employing the Doric dialect, gives forms such as *δοξείτε*, *ήσείτε* (Ach. 741, 747), *άγορασούντες* (Ach. 750); and in Thuc. v. 79 (terms of a truce between Lacedaemonians and Argives—both Dorian) we find *έσσείται*=*έσσεέται*=*έσ-σείται*. We also, in non-Doric Greek, meet with middle forms known as 'Doric future;' e. g. *έσσείται* (Hom. Il. ii. 393, xiii. 317), *κλαυσούμεθα* (Ar. Pax 1081), *πλευσούμεθα* and *πλευσείσθαι* (Thuc. i. 143, viii. 1), *φευξούμεθα* (Eur. Hel. 500, etc.). The existence of these forms indicates that in non-Doric dialects -σιω (-σεω) originally prevailed, but gave way to -σω.

With this *έσιω*='I go to be,' other verbs are compounded in order to acquire a future, just as e. g. the perfect stem in Latin is compounded with *ero* in *cecid-ero*, *amav-ero*; the initial *ε* of the root *εσ* being lost in the process as perhaps in the weak aorist formation (above, p. 215) and in Latin *sum*; so that -σιω becomes the normal future termination. The future of stems in *λ*, *ρ*,

μ, ν, ε. g. *τενῶ, φανῶ, μενῶ, νεμῶ, βαλῶ*, etc. (which evidently arise from *-εσω*, by loss of *σ* and contraction of *-εω*, so that *μενῶ* = *μενέφ* = *μενέ-σω*) show an *ε* between the stem and *σ* which is sometimes supposed to belong to the root *ε*; on which supposition there would be a distinct and older class of future forms, with the addition of the fuller form *-εσιω* to the verb-stem. The analogy however of certain Sanskrit forms, e. g. *tan-i-shyā-mi* = *τεν-ε-σίω* (whence *τενέ-σω, τενέ-ω, τεν-ῶ*), seems to justify the view taken in Curtius' Greek Grammar, § 262¹, that the *ε* is a phonetic insertion between the stem and the future suffix, in satisfaction of the laws of Greek euphony which (as we saw in the case of the weak aorist) did not tolerate an *σ* in close juxtaposition with λ, μ, ν, ρ. In the case of the weak aorist of such stems as e. g. *φαν-*, *σ* disappeared from the contact—*ἔ-φην-α* = *ἔφαν-σα*: in the future it was retained in the first instance by the intervention of *ε* (*φαν-έ-σω*), but then disappeared in accordance with another euphonic tendency to drop *σ* between two vowels (p. 66). And as in the case of the weak aorist a few exceptional (chiefly Epic) forms remain in which *σ* survives in contact with ρ and λ, so in the future we find exceptional (chiefly Epic) forms like *κέρσω, κύρσω, θέρσομαι*, and *κλῶσω*, which show the shortened form in *-σω* = *-σιω*, and that at quite an early stage of the language. Other futures which show traces of this *ε* between the stem and the future-ending are *ἰδοῦμαι* = *ἰδέ-σομαι*, *πесоῦμαι* = *πес-έ-σομαι*, *μαχοῦμαι*, Epic *μαχέσομαι, μαχέσσομαι*.

σ has similarly been lost and the vowels contracted in *βιβῶ* (= *βιβάσω, βιβάω*), *ἐλῶ, δαμῶ*, the so-called 'Attic futures'²:

¹ Curtius now inclines ('Das Verbum,' II. p. 306) to the supposition of a double series of stem-forms, e. g. *μαν, μαπα*, whence *μεν-* of aorist *ἔμεινα* = *ἔ-μεν-σα, μενε-* of future *μενῶ* = *μενε-(σ)ω*. The *i* of Sanskrit *tani-shya-mi* would thus be a weakening of *a* in the stem-form *tana-*, corresponding to *τενε-* of Greek *τενε(σ)ω* = *τενεσιω*. He allows that in the Greek examples the vowel has become a merely phonetic adjunct: and it is apparently for the sake of consistency with his present views about the 'thematic vowel' in ordinary conjugation (p. 166) that he is now unwilling to regard it as originally phonetic. Whether, however, it is necessary to strain after such consistency, in face of other undoubted examples of purely phonetic insertion of a vowel (p. 83), may be doubted.

² Other examples of 'Attic future' are *δικᾶν* (Hdt. i. 97) = *δικάσειν*, *κολῆ* (Ar. Eq. 456) = *κολάσει*, *πελῶ* (Aesch. P. V. 282, cp. *πελάσω*, Eur. El.

σ has been lost without contraction in the Homeric forms $\alpha\rho\acute{\iota}\omega$ (Il. iv. 56), $\epsilon\rho\acute{\upsilon}\omega$ (xi. 454), $\tau\alpha\rho\acute{\iota}\omega$ (Od. xxi. 174). These forms have become like present-forms by loss of σ , but there are others which really are present formations to which a future meaning has attached, notably $\epsilon\lambda\text{-}\mu$, \textit{ibo} .

Future (Latin).

Two forms
of Latin
Future.

Here we find two distinct forms: 1. a modified form of pres. subj. (with consonant and *i-* or *u-* stems) which like *sim*, etc. (see p. 186) is probably an optative form. With *a-* and *e-* stems however this form, if used for the future, would lead to confusion with pres. subj. in the one case (*amemus*), with pres. indic. in the other (*monemus*); and with these verbs, accordingly, we find another form, *ama-bo*, *mone-bo*. A similar future in *-bo* (besides the more usual form in *-am*, *-es*, *-et*) is found from *i* stems in earlier writers (Plautus, Terence, etc.), e.g. *aperibo*, *adgredibor*, *scibo*, etc.; but none of these forms survived in use in the 1st century B.C. except *ibo*, *quibo*, *nequibo*. Propertius has *lenibo*; and we find *veniet* for the more usual *venibit* (future of *veneo*=*venum eo*) in the Lex Thoria, 112 B.C., and *exiet* in Seneca. [*Pulchrior exiet* in Hor. Od. iv. 4. 65, though accepted by Orelli, has very little MS. authority; and *evenit* is probably correct.] *Dicebo*, *fidebo* are also quoted from old Latin.

Future in
-bo.

This termination *-bo*, like *-bam* of the imperfect and *-ui*, *-vi* of perfect (see p. 196), is generally supposed to be a tense-form of the stem *fu-*, 'to be,' whence *fui*, *fore*, etc. Opinions however differ as to what precise tense-form it represents, two explanations being given:—

1. *-bo*=*fu-o*, a present formation: thus *ama-bo* would be analogous to 'I *am* to love.'

2. *-bo*=*bu-i-o*, *fu-i-o*; a form analogous to $\epsilon\rho\acute{\iota}\omega$, *esio*, *ero*, and='I go to be' (see above, p. 218). This latter is more generally adopted, perhaps on account of the close analogy which it presumes between Greek and Latin in the formation

1332), $\alpha\rho\sigma\kappa\epsilon\delta\omega$ (Soph. O. T. 138), $\gamma\alpha\mu\epsilon\acute{\iota}$ (Aesch. P. V. 764, etc.), $\kappa\alpha\theta\epsilon\delta\omega\mu\alpha\iota$ (Ar. Ran. 200), and many futures in *-iō*, *-iōμαι* from *i* stems. The term 'Attic future,' applied by old grammarians, is really incorrect, many of the forms in question being found in Homer; while in some verbs (e.g. $\delta\iota\kappa\acute{\alpha}\zeta\omega$) the Attic dialect invariably retains the σ .

of the future, Greek taking one form of auxiliary (εσ-), Latin the other (*fu-*). Latin Future in -bo.

Was this future in *-bo* the original form of all futures in Latin? Curtius ('Temp. und Modi,' p. 324) thinks not, because it is contrary to all analogy that language should proceed from a compound to a simpler form. The most primitive usage, he thinks, was to employ the optative form (*dicem, faciem*) as future: the form in *-bo* being a later form, and as such applied mainly to the derivative verbs of 1st, 2nd, and 4th conjugations, and but little to consonantal stems. Forms therefore like *sugebo, dicebo, vivebo* (which are very few in number), are not relics of an earlier formation for consonantal stems, but anomalous later forms on the analogy of *a-* and *e-* verbs.

The ordinary 'futurum exactum' or 'Completed Future' (*amav-ero, cecid-ero*, etc.) is, as has already been noticed (p. 218), a compound form; the future (or pres. with fut. signification) of stem *es-*, i. e. *ero=esio*, being added to the perfect-stem, the characteristic *i* of which vanishes; *amav-ero, scrips-ero, tetig-ero, ded-ero*, etc.

In the older language of Plautus, old laws, and formularies, Futures in -so, -sim, -sere. etc., is found a series of future forms with characteristic *s*; viz. indic. *-so* or *-sso* (*facso, amasso*, etc.); subj. *-sim* or *-ssim* (*faxim, ausim, locassim*); infin. *-sere* or *-ssere* (*reconciliassere*, Plaut.); pass. indic. *-situr* or *-ssitur* (*mercassitur*, Lex Thoria; *jussitur*, Cato; *faxitur*). A number of other examples are given in Roby's Latin Grammar, i. §§ 619, 620: but almost the only forms which survived after Terence are *faxo, faxis; ausim, ausis*. Terence has besides *excessis* (And. iv. 4. 21) and *appellassis* (Phorm. v. 1. 15); Lucretius has *cohibessit* (iii. 444); Cicero, *di faxint*; Catullus, *recepso* (xliv. 19) and *tepefaxit* (lxviii. 29); Virgil, *jusso* (Aen. xi. 467). Two explanations of these forms are given:—

1. On the analogy of *amassem, amasse, consuessem*, etc., and other forms acknowledged as syncopated (*diati, extruxem, consumpse*, etc., see Wordsworth's Introd. xviii. 12, p. 149), these forms are regarded as formed by the addition to the perfect-stem of *-so=-ro* of the ordinary 'futurum exactum,' the *s* pre-

Latin Fu-
tures in -so,
-sim, -sere.

ceding this -ro (*amavĕro*) being on this view regarded as the *i* of perfect-stem shortened to *ĕ*, as abl. -ī to -ĕ (p. 125). Thus *amasso* = *amavi-so* = *amave-so* = *amavero*. [Schleicher in fact classes the forms in -so under the head of 'futurum exactum,' of which he distinguishes (a) the shorter and older form -so added to pure verbal-stem; (b) the longer and later form in which -so is added to the perfect-stem, including the ordinary forms *amavero*, etc., and the syncopated forms *amasso*, etc.] To this view two objections are made: (1) that it does not account for forms like *cap-so*, *rap-so*, *fazo* (*fac-so*), *prohibesso*, etc., where the *present*- and not the perfect-stem seems to be employed; (2) that it does not properly account for the double *s*; the view that this *ss* is a compensation for the loss of *v* or *ui* being not only conjectural, but contrary to the analogy of other contracted forms. *Amaveso*, by loss of *v*, would more naturally become *amaeso*, *amāso*, *amāro*; or if it did become *amavso*, it would contract to *amauso* or *amūso* (cp. *amāram* = *amaveram*, *nauta* = *navita*, *aetas* = *aevitas*, etc.). Accordingly others explain these forms as—

2. Formed from the *present*-stem, like the Greek future in -σσω: -so, -sim, -sere being respectively a future indicative, subjunctive, and infinitive, formed by the addition of *s* to the stem; a final *i* or sometimes *e* of the stem being dropped, as in *fac-so* (*fazo*) from stem *faci*; *sponso* (*spondso*) from stem *sponde*; *ausim* (*aud-sim*) from stem *aude*. Other *e*-stems preserve the vowel, *prohibe-ssit*, *cohibe-ssit*, etc. The double *s* in these forms and those from *a*-stems may possibly be due to a mistaken analogy from the forms *amasse*, *consuessem*, etc., for *amavisse*, *consuevissem*, etc.: or it may have been a mode of marking the accent, or of preserving by additional stress the characteristic *s*; a single *s* between two vowels, as we have seen (above, p. 66), being very rare and almost always changed to *r*. It may be, therefore, that in pronunciation of these forms the desire to retain what was characteristic of meaning, viz. *s*, struggled against the phonetic tendency to resolve *s* into *r*; and that the success of this effort affected orthography in the *ss* of the forms in question.

The objection urged to this explanation is the difficulty of regarding *ss* as merely the result of accent in pronunciation; a view which has already been set aside in the explanation of the superlative termination *-issimus* (see above, p. 134): but upon the whole the difficulty appears less than those which attend the other explanation.

[N.B. The verbs *arcesso*, *capesso*, *facesso*, *laccio* are probably similar formations, originally future, from *arcio* (= *ad-cio*, see p. 65), *cipio*, *facio*, *lacio*; but they have been treated as present-stems, and so received fresh inflections of tense and mood. Similarly *incesso* (= *inced-so*, p. 75) is formed from *incedo*: and *petesso* or *petisso* (Cicero, *Tuscul.* II. xxvi. 62; Lucretius, iii. 648, v. 810) is probably a like form from *peto*.]

6. *Tenses formed from the Perfect-stem* (Pluperfect, etc.).

(a) *Greek Pluperfect*. A preterite of aorist form from the root *εσ-* (*ἔσ-αμ*, *ἔσ-α-s*, etc.) is added to the perfect-stem, the augment being prefixed. Thus from *πείθω*, perfect-stem *πέποιθ-*, we have pluperfect *ἑ-πέποιθ-εσα(μ)*, whence Epic *ἐπεποίθεα*, contracted naturally into *ἐπεποίθη*, which is found in old Attic; *-ν* being added as secondary form of 1 pers. inflection. In 3 sing. however *α* became *ε*, *ἐπεποίθ-εσε(τ)*, *ἐπεποίθεε*; and the natural contraction was to *ει* in *ἐπεποίθει*. This *ει* having become usual in 3 sing. was transferred in late Greek by a false analogy to 1 plur. and dual (*ἐπεποίθέσμες*, *ἐπεποίθέμες*, *ἐπεποίθημες*), giving e.g. *-εμεν* as its termination; and then to 1 sing., giving *-ειν* instead of *-η*: the extreme point of confusion being reached when in 3 plur., where alone the full form was retained [*ἐπεποίθεσαν(τ)*] and there was never any contraction, the *ει* representing a contraction was introduced, giving *-εισαν* as the termination. But this *-εισαν* of 3 plur., though always given by grammars, is rarely found in the best MSS. of Greek authors: and many good MSS. of Plato and Thucydides give in 1 sing. *-ην*, not the later and incorrect form *-ειν*.

(b) *Latin Pluperfect*. Here *-eram*, *-as*, *-at*, etc. added to the perfect stem is obviously a corresponding formation to Greek *ἔσα(μ)*; Latin retaining fuller forms in 1 sing. and 3 plur.

Latin Plu-
perfect.

Compare e.g. ᾔδεα=ᾔδεσα, the older form of ᾔδειν, with Latin *videram*, the pluperfect form of *vidi*=*φοῖδα* :—

| | | |
|-------------------|-----------------|---------|
| <i>vid-eram</i> | ἐ-φειδ-ε(σ)α | ᾔδεα |
| <i>vid-eras</i> | ἐ-φειδ-ε(σ)ας | |
| <i>vid-erat</i> | ἐ-φειδ-ε(σ)ε | ᾔδεε |
| <i>vid-eramus</i> | ἐ-φειδ-ε(σ)ᾶμες | |
| <i>vid-eratis</i> | ἐ-φειδ-ε(σ)ᾶτε | ᾔδέατε |
| <i>vid-erant</i> | ἐ-φειδ-εσαν | ᾔδεσαν. |

Except that the Greek pluperfect has the augment, the two are identical throughout.

Futurum
Exactum.

(c) '*Futurum exactum*' (Greek), by the addition of σ (see above, p. 218) to the lengthened perfect-stem in active voice *τεθυήξω* (-κσω), *ἐστήξω*; to the perfect-stem in the middle forms *λελύ-σομαι*, *πεπράξ-ομαι*=*πεπράγ-σομαι*, *γεγάψ-ομαι*, etc.

(d) '*Futurum exactum*' (Latin), by addition of *-er-o*, etc. to perfect-stem (see above, p. 218).

7. *Imperfect Tense* (Latin).

Latin Im-
perfect in
-bam.

The imperfect in *-bam*, like the future in *-bo*, appears to be an exclusively Italian formation, found in all Latin verbs except *sum*, and supposed to be formed from the parallel root *fu-* as *eram* from *es*. *Fu-am*, then, is the original of *-bam*; the process of change being according to some the loss of *u* and change of *f* to *b*, *-fuam*, *-fam*, *-bam*; according to others, loss of *f* and hardening of the *u* (consonantal=*w*) to *b*, *-fuam*, *-uam*, *-bam*. This termination *-bam*, *-bas*, etc. is added directly to most pure vowel-stems, e.g. *dā-bam*, *stā-bam*, *quī-bam*, *i-bam*, and to derived vowel-stems in *-a*, *-e* (*ama-bam*, *mone-bam*): but with derived verbs in *ī* (4th conjug.) and consonantal stems a long vowel is inserted between the stem and the termination, e.g. *audi-ē-bam*, *reg-ē-bam*. In old Latin poetry this *ē* is often not found with *ī* stems, e.g. *ai-bam*, *sci-bam* (Plaut., Ter., Lucr., Catall.); *servi-bas* (Plaut.); *insani-bas* (Ter.); *saevi-bat* (Lucr. v. 1003), etc.; and so in later poetry—*audi-bant* (Catullus, lxxxiv. 8); *largi-bar* (Prop. i. 3. 25); *leni-bant* Virg. Aen. iv. 528), *nutri-bant* (vii. 485), *redimi-bat* (x. 538), etc. These instances are chiefly poetical, and the probability is that *-ibam* is not an original form, but a contraction for *-iebam*: and

further, that for all derived verbs the form was originally *-ē-bam*, but that with *a-* and *e-* stems it coalesced with the stem-vowel (*monē-e-bam*, *monē-bam*). The origin of this *ē* is doubtful: some explain it as the lengthening of the ordinary connecting-vowel: others as being merely transferred from the derived verbs in *ē-*, by false analogy, to the 3rd and 4th conjugations; others (e.g. Bopp) as part of the suffix *-aya*, which enters into the formation of derived verbs in *ā-*, *ē-*, *i-* (p. 211), and therefore confined in the first instance to these derived verbs. In support of this latter view it is urged that the parallel future form in *-bo* is general with some derived verbs (in *ā-* and *ē-*, 1st and 2nd conjugation), not unfrequent in others (*i-* stems), and very rare in consonantal stems. If this view be correct, the *ē* with consonant verbs *reg-e-bam*, etc. will be the result of false analogy from the vowel or derived stems in *a-*, *e-*, *i-*. Another suggestion, that in the long *ē* we have the effect of a stem-vowel coalescing with the augment prefixed to the auxiliary (*ē-bam*), contradicts all analogy, not only of the Latin language, which exhibits no trace of having used the augment, but also of the Greek, where in compound tenses the augment always leaves the auxiliary and takes its place at the beginning of the whole compound, e.g. *ἐλυσσα*, not *λύ-εσσα*: so too in Sanskrit, *a-dik-sham*, not *dik-a-sam*.

The original quantity of *ā* in the termination *-bām* is preserved throughout, except in 3 sing., which was shortened (as *amat*, *monet*, *regit*, etc., see p. 175) in dactylic verse, from Ennius downwards; the old quantity being seen in Enn. Ann. 141,—

‘Noenum rumores ponebat ante salutem.’

In Virg. G. iv. 137, Aen. v. 853 (‘tondebāt,’ ‘amittebāt’) a short syllable is artificially lengthened.

8. Aorist Passive (Greek).

The two passive aorist-stems in the Greek verb are distinguished from other passive forms by *active* person-endings: whence it seems probable that their passive meaning lies in the stems themselves, i.e. in the elements *ε* (*η*) and *θ* (*θη*) appended to the verb-stem. The precise connection, however, of these elements with the meaning in question is matter of conjecture.

Latin Im-
perfect.

Greek Aorist
Passive.

'Strong' or
2nd Aorist
Passive.

(1) For the 'strong' 2nd aorist-stem ϵ (η) is added to the root, and treated as a root-vowel, the augment being prefixed. Thus from root $\phi\alpha\nu-$ is formed the aorist stem $\acute{\epsilon}\text{-}\phi\alpha\nu\epsilon$; indic. $\acute{\epsilon}\text{-}\phi\acute{\alpha}\nu\eta\text{-}\nu$; imper. $\phi\acute{\alpha}\nu\eta\text{-}\theta\epsilon$; conj. $\phi\alpha\nu\acute{\epsilon}\text{-}\omega$, $\phi\alpha\nu\acute{\omega}$; opt. $\phi\alpha\nu\epsilon\text{-}\acute{\iota}\eta\text{-}\nu$. η has usually been regarded as a raising (*Steigerung*) of ϵ ; but some regard η as the original form, and ϵ a shortening from it. The origin of ϵ (η) is uncertain: Curtius ('Temp. und Modi,' pp. 329-30) suggested that it arose from the root ya ='to go,' which in Sanskrit is employed in the formation of passive verbs (cp. *venum eo* or *veneo*=passive of *venum do* or *vendo*), and which e. g. in $\acute{\iota}\eta\mu$ has a causative force='I make to go.' But this is only a conjecture: and it is equally probable that ϵ is an increase of the stem, such as is found e. g. in the derived verbs, whose stems are sometimes treated as if their final letter were the final letter of the root itself; compare Aeolic $\phi\acute{\alpha}\lambda\eta\text{-}\mu$. This, in fact, is Curtius' present view ('Das Verbum,' ii. p. 322).

'Weak' or
1st Aorist
Passive.

(2) The 'weak' or 1st aorist-stem is distinguished from the other by θ between the verb-stem and ϵ (η). We may say either that ϵ (η) is appended to the verb-stem increased by θ (instead of to the pure verbal-stem as in 2 aor.); or, more probably, that $\theta\epsilon$ ($\theta\eta$) is appended to the pure verbal-stem; analysing e.g. $\acute{\epsilon}\pi\rho\acute{\alpha}\chi\theta\eta\nu$ (stem $\pi\rho\alpha\gamma\text{-}$) into $\acute{\epsilon}\pi\rho\acute{\alpha}\chi\text{-}\theta\eta\text{-}\nu$. The form probably stands in more or less close connection with numerous other formations in which the same consonant θ appears¹: e.g. the present-stems $\tau\epsilon\lambda\acute{\epsilon}\theta\omega$, $\phi\theta\acute{\iota}\nu\acute{\iota}\theta\omega$, $\mu\acute{\iota}\nu\acute{\iota}\theta\omega$, $\pi\rho\acute{\eta}\theta\omega$ (stem $\pi\rho\alpha\text{-}$ of $\pi\acute{\iota}\mu\pi\rho\eta\mu$), $\pi\lambda\acute{\eta}\theta\omega$ ($\pi\lambda\alpha\text{-}$), $\acute{\epsilon}\sigma\theta\omega$ (Epic)= $\acute{\epsilon}\delta\text{-}\theta\omega$ (by dissimilation, see p. 79), from which with a further suffix α = ya is formed the present-stem $\acute{\epsilon}\sigma\theta\acute{\iota}\epsilon$ in $\acute{\epsilon}\sigma\theta\acute{\iota}\omega$, or the preterites $\acute{\epsilon}\sigma\chi\epsilon\text{-}\theta\text{-}\omicron\nu$, $\acute{\eta}\mu\acute{\iota}\nu\alpha\text{-}\theta\text{-}\omicron\nu$, $\acute{\eta}\gamma\epsilon\rho\acute{\epsilon}\text{-}\theta\text{-}\omicron\nu\tau\omicron$, etc. This $\theta\eta$ is possibly identical with the root $\theta\epsilon$ (dha)='to place,' used in the sense of 'to do' or 'make,' with the same force originally, in composition with other verbal stems, as our English auxiliary verb *did* in such expressions as *he did come*. If this be so, the formation would be originally active: how it comes to have a passive meaning is an unsolved difficulty. Sanskrit has a compound verbal stem $\grave{c}rad\text{-}dha$, 'to believe,'

¹ A full list of these is given by Curtius, 'Das Verbum,' ii. pp. 340-345 (Engl. transl. pp. 501-504).

from which is formed a present *crad-dadhāmi*, i. e. *crad* or *crath* = 'trust,' 'belief,' and *da-dhāmi* = *τί-θη-μι*. To this corresponds the Latin *crēdo* = *cred-do* (cp. *condo*, *per-do*, etc.); this and similar forms representing *dha* of *da-dhā-mi*, *τί-θη-μι*, as *da-* in *dare* represents *δο-* *da-* of *δίδωμι*, *da-dāmi*: and English *do*, *did* is from the same root. Thus in *ἔ-θη-ν*, *ἐ-πράχ-θη-ν*, *cre-do*, and English *do*, *did* we have one and the same element.

(3) From these two aorist passive-stems are formed two futures by the addition of the ordinary future termination (see p. 218) with middle person-endings, *φανή-σομαι*, *λυθή-σομαι*. They are apparently late formations; in Homeric Greek the weak aorist in *-θησομαι* does not occur at all, the strong aorist only in *μυγήσεσθαι* (II. x. 365).

Greek Aorist
Passive.

Greek
Future
Passive.

9. Tenses of the Conjunctive Mood in Latin.

Latin Con-
junctive:
Present.

(1) The Present Conjunctive has been explained above, pp. 184-186.

(2) Imperfect Conjunctive. The *-rem* which in 1st, 2nd, and 4th conjugations is added directly to the present-stem, and in 3rd conjugation apparently with a connecting vowel *e* (*ama-rem*, *mone-rem*, *audi-rem*, *dic-e-rem*), probably = *-sem*, i. e. *-erem* or *-esem*; an optative form of *eram*, *esam* analogous to *amem*. Thus in 1 plur. *eremus*, *eramus*; *amemus*, *amamus*. This *-erem* (*-esem*) therefore originally = *esa-i-m* (see above, p. 186). For the double *s* in *essem*, the ordinary imp. subj. of *sum*, different explanations have been suggested. Pott, followed apparently by Roby (Latin Grammar, § 609), makes *essem* = *es-sem*, the first *s* belonging to the stem, the second to the suffix *-sem* (*-rem*). But in the plup. subj. *fecissem* evidently = *feci* + *-sem*, and the two forms can hardly be treated differently: moreover we have traces in Old Latin of both forms with a single *s*, e. g. *eset*, *esetis*, *esent* on S. C. de Bacch. (Appendix I. ii); *fuisem* is also said to occur. The form *essem* from *edere* is a case of assimilation = *ed-sem*; similarly *possem* = *pot-sem* (*pot-est*, *pot-is*), *ferrem* = *fer-sem*, *vellem* = *vel-sem* (see above, pp. 74-75).

Imperfect.

(3) The Pluperfect Subjunctive is apparently formed in the same way from the perfect-stem, by adding *-sem*, the *s* becoming *ss* in the ordinary conjugation of all verbs; *amavi-ssem*, *rexi-*

Pluperfect.

Latin Con-
junctive:
Pluperfect.

sssem. Schleicher (Comp. § 301) thinks that the forms *vixem* (Virg. Aen. xi. 118), *extinxem* (Aen. iv. 606), *confluxet* (Lucr. i. 987), etc. are not, as is usually supposed, syncopated forms of *vixissem*, *extinxissem*, *confluxisset*, etc., but relics of an older formation by the addition of *-sem* to an older perfect-stem without *i* or *is*: the ordinary forms in *-issem* being an addition of *-sem* to the *-is*, which, as we have seen above (p. 199), there is reason to suppose was characteristic of the perfect-stem, surviving in the terminations *is-ti*, *is-tis*, *is-se*. The comparison however of these forms with those acknowledged to be syncopated, e.g. *diixi*, *intellexi*, *misti*, *accestis*, *consumpse*, *traxe*, *promisse*, etc., rather points to the conclusion that the pluperfect forms in question are later contracted forms.

Perfect.

(4) The *Perfect Subjunctive* is formed by adding *-sim* = *-siem* to the perfect-stem in *i* -: thus *feci-siem*, which becomes *fecerim*; the formation thus bearing some analogy to that of the perfect subjunctive passive by the auxiliary *sim* (*amatus sim*), just as the 'futurum exactum' *amav-ero* bears to the fut. pass. *amatus ero*. The original length of the *i* in *sim* = *siem* appears in *fuieris*, *dederis* (Hor. Od. iv. 7. 20), *dederitis*, etc.; though, as has been already noticed (p. 184), the confusion with *z* of the 'futurum exactum' has led to frequent intermixing of the quantities in both tenses¹; *i* is properly characteristic of perf. subj., *z* of completed future indic.

INFINITIVES AND PARTICIPLES.

Infinitive
not to be
classed as a
'Mood.'

The Infinitive is not a 'Mood,' its various forms being cases of verbal-nouns: and Philology and Grammar alike must begin by getting rid of the misnomer 'Infinitive Mood,' for the proper understanding of its real nature and historical development. The analysis by Grammar of the syntactical uses of the infinitive points to its being a verbal-noun, sharing the properties both of noun and verb²: (1) of a *noun*, in that it expresses the action of the verb in general, like nouns of action,

¹ For examples of this confusion, see Roby, 'Latin Grammar,' § 592.

² See Roby's 'Latin Grammar,' vol. ii. §§ 1342, 3.

and in Greek becomes a verbal-noun by combination with the article; (2) of a *verb*, in admitting inflections of voice and tense, in governing the case of the verb to which it belongs, in being qualified by adverbs and not by adjectives, and (in Greek especially by combination with *ἄν*) in sharing the functions of mood in *oratio obliqua*. And the analysis by Philology of the forms of the infinitive leads us still more surely to the same conclusion; so that there is no class of grammatical forms of which the first origin and subsequent development can more certainly be traced, and a meaning more clearly seen to underlie what meets us in Greek or Latin Grammar as an apparently unmeaning form.

I. The Greek Infinitive forms fall into five groups:

Greek Infinitive.

1. Forms in *-μεναι, -μεν*; *ἔδ-μεναι, ἀμυνέ-μεν*.
2. Forms in *-εναι, -ναι*; *λελοιπ-έναι, δεικνύ-ναι*.
3. Forms in *-εν, -ην, -ειν*; *φέρειν* (Cret.), *φέρ-ην* (Aeol.), *φέρ-ειν*.
4. Infinitive of the sigmatic aorist; *δείξει, ἀμύναι*.
5. Forms in *-σθαι* throughout the Middle.

The form in *-μεναι* corresponds to Sanskrit *mané* (*manai*), the dative of a suffix *man-*, by which a large number of nouns are formed in Sanskrit, Greek, and Latin¹; e. g. from Sanskrit *jñā*, 'to know,' is formed (*j*)*nāman*, Latin (*g*)*nomēn*, that by which a thing is known, its *name*: while from the corresponding Greek stem *γνώ-* is formed *γνώμων* (*γνώ-μων-ος*) = 'a knower,' the suffix *-μων, -μεν* (= *-man*) being used in Greek chiefly for forming masculine nouns, *τλήμων, ποιμήν*, etc. In Latin *-mēn* is a common termination of abstract nouns in the neuter gender, e. g. *teg-men, sola-men, car-men, tuta-men*, etc.: and if we took the dative case of one of these forms to express the object of doing anything, and said *canes fecit tutamini domum*, we should have an exact equivalent to the Homeric expression *κύνας ἔτευξε φυλασσέμεναι δόμον*, 'he made dogs for the protection of the house.' Thus the notion of *purpose* or *object* is in reality the primary notion of the infinitive; and the expression in English of both dative case of nouns and infinitive

¹ See Max Müller's 'Chips from a German Workshop,' vol. iv. p. 33 ('Selected Essays,' i. p. 141).

Greek Infinitive in
-μεναι, -μεν.

by the same preposition *to* ('I come *to say this to him*') reflects a philological truth.

[The above explanation of *-μεναι* is that preferred by Professor Max Müller, to whose lecture on 'The Value of Comparative Philology' ('Selected Essays' I. ii) I am indebted for the statement here given. There is, however, another explanation, viz. that *-μεναι* is the *locative* of a suffix *-mana* (*mana-i*, cp. p. 126), which, as will be shown below (p. 237), appears as a participial suffix in Greek (*φερό-μενο-ς*) and in the isolated Latin form *ama-mini* (sc. *estis*, see p. 178); *-μεναι* would, on this view, be a locat. sing. fem. of a verbal-noun formed by this suffix, analogous to *χαμα-ί* from stem *χαμα-*. The analogy of locat. sing. appears at first sight more suitable in the case of 1 aor. infin., e.g. *λύσαι* from stem *λυσα-* (pp. 214 sqq.): but it cannot show the same clear coincidence of form and meaning as the other view; and the analogy of *-μεν-αι*, when the consciousness of its being a dative was lost, would tend to produce similarity of termination in *λύσαι*, though the dative of stem *λυσα-* would properly be something different (*λύσα-αι*, *λύσα-*, see p. 128). The *-αι*, however, was not felt to be dative any more than locative, and would assert itself by analogy as the right termination.]

The infinitive in *-μεν* is probably an abbreviation of that in *-μεναι*; though it has been suggested that *-μεν* may be an archaic accusative corresponding to Latin accusatives like *tegmen*, etc., and expressing the general object of certain acts or movements.

2. Infinitive
in *-εῖναι*, *-εῖναι*.

Besides the form in *-μεναι*, we find a parallel form in *-εῖναι*: thus in Homer we find both *ἵ-μεναι* and *ἱ-εῖναι*, *ἔμ-μεναι* and *εἶναι* (= *εἶσ-εῖναι*). Bopp and others have accounted for this form by supposing the loss of *μ*: but it is more probably a collateral formation from another suffix *-van* or *-an*, added to verbal bases in the Indo-European languages. 'By the side of *dāman*, the act of giving, we find in the Veda *dā-van*, the act of giving, and a dative *dā-vāne*, with the accent on the suffix, meaning "for the giving," i.e. "to give." Now in Greek this *v* would necessarily disappear, though its former presence

might be indicated by the *digamma aeolicum*. Thus, instead of Sanskrit *dāvāne*, we should have in Greek *δοῖναι*, *δοέναι*, and contracted *δοῦναι*. . . . In the same manner *εἶναι* stands for *ἐσ-φέναι*, *ἐσ-έναι*, *έναι*, *έναι*. Hence *λέναι* stands for *λφέναι*, and the accent remains on the suffix *-αν*, just as it did in Sanskrit¹.

The regular infinitives of the perfect active (*λελοιπ-έναι*) and of the verbs in *-μι* (*διδό-ναι*, *ιστά-ναι*, *τιθέ-ναι*), none of which are Homeric, should be referred, according to Professor Max Müller, to the parallel suffix *-an*, dative *-ane*, for which again he quotes parallel forms in the Sanskrit of the Veda. Schleicher, who regards these forms as locatives, refers them to a kindred suffix *-ana*, which appears in the formation of substantives in Greek (*δρέπ-ανο-ν*, *τύμπ-ανο-ν*, *ἀγχ-όνη*, *στέφ-ανο-ς*, etc.) and Latin (*pag-ina*, *dom-ino-s*, *sarc-ina*, etc.).

The ordinary infinitive in *-ειν* is generally regarded as formed by transposition of *-ει*: e. g. *φέρειν* becomes *φέρειν*, just as *φέρειν* becomes *φέρειν* (above, p. 170). As to the form *φέρειν*, opinions differ: some regarding it as a phonetic corruption of *φέρηναι*, while others, who hold that *φέρηναι* is dative, suppose the existence of a locative in *-ι* side by side with the dative in *-αι*². The Doric form in *-εν*, e. g. *αἰδε-ν* = *αἰδε-ν*, is thought to arise from dropping the final *ι*, instead of throwing it back into the previous syllable; compare the Doric form of 2 sing. *ἀμέλ-γες* with the ordinary form *ἀμέλγεις* = *ἀμέλγεις*. An Aeolic form *φέρην* is found: and Curtius, comparing this with *φέρειν* and *φέρειν*, postulates a common form *φέρειν*, in which *φερε-* is the stem (with thematic vowel), *-εν* the termination. The raising (in the arsis of a metrical foot?) of the last syllable would give the Homeric infinitive in *-ειν* (*φυγέειν*, *ιδέειν*, etc.). The present infin. in *-ειν* and strong aorist infin. in *-έν* might both arise from *-ειν*; the accent for the aorist being placed on the thematic vowel (*φυγέειν*, whence *φυγέειν*), for the present or the stem-syllable (*φέρειν*, whence *φέρειν*).

The infinitive in *-αι* of the sigmatic or weak aorist may

¹ Max Müller, 'Chips,' iv. p. 34 ('Selected Essays,' i. p. 142).

² Max Müller, 'Chips,' iv. p. 35 ('Selected Essays,' i. p. 143).

be formed on the analogy of the perfect to which its stem formation has affinity, particularly in the characteristic -ā (see above, p. 192).

5. Infinitive
in -σθαι.

The middle and passive infinitives in -σθαι, -θαι (δίδο-σθαι, ρύπτε-σθαι, τεύφ-θαι) are explained by Schleicher and others as dative feminine formations from a suffix *dhi*, i. e. *dhy-ai*, *thyai*. Sanskrit exhibits forms in -*dhyāi*, which evidently correspond to Greek forms in -σθαι: e. g. *bhāra-dhyāi*=*φέρε-σθαι*, *sacā-dhyāi*=*ἑπε-σθαι*, *yāja-dhyāi*=*ἄζεσθαι*. In Zend also occurs a form *verezidyāi*=*ρίζεσθαι* (*verez*=*φρεγ* or *φεργ*), and *bū-zhdyāi*=*φύε-σθαι*; the latter apparently showing the *σ* of -σθαι. The origin of this *σ* is doubtful. It may possibly owe its origin to analogy from other middle forms with *σθ*, viz. -σθε, -σθον, -σθην, -σθων, in which *σ* is perhaps original (see above, p. 173); or it may be a phonetic strengthening of -θαι, as -μεσθα of -μεθα; or -σθαι may arise by regular phonetic processes of assimilation and dissimilation from -*thyai*, representing I. E. *dhyāi*. *thyai* would become by progressive assimilation -θθαι or -τθαι (see p. 174), and this by dissimilation -σθαι. The existence of so many different explanations only shows how little can really be known with certainty of the origin of this form. In *τεύφ-θαι*=*τεύπ-σθαι*, *σ* has been omitted for phonetic reasons, and *π* assimilated to *θ*.

II. The forms of infinitive in *Latin* are:—

- (i) Active: -*re* in *amare*, *monere*, etc.
-*se* of perfect *amavisse*, and *esse*, *posse*.
-*le* in *velle*, *nolle*, *malle*.
- (ii) Passive: -*ri* or -*i* in *amari*, *moneri*, *regi*.
-*ier* (archaic) in *farier*, etc.

Latin In-
finitive Ac-
tive -*se*, -*re*.

(1) The three terminations of infin. act. are really the same, viz. -*se*=*-sei*, originally the dative case of a verbal substantive whose stem ended in -*as*, dat. -*asai*; the -*as* being the same termination as that of fem. substantives in -*es* (*sedes*, *labes*), or neuter in -*us*, -*ur*=Greek -*os* (*genus*, *robur*, *γένος*). Sanskrit has a corresponding dative formation, also used as infinitive, e. g. *jīv-āse* (from *jīv*, 'to live'); and Latin *vehe-re*=Sanskrit *vah-asé*.

The older form *-se* is retained in the perfect *amavis-se* (on the perfect-stem ending in *-is* see above, p. 199), in *es-se*, 'to be,' and *es-se=ed-se*, 'to eat,' and in *pos-se=pot-se*; *s* is assimilated to the final consonant of the verb-stem in *ferre=ferse*, and *velle, nolle, malle=vel-se, nol-se, mal-se*. When added to the present-stem *s* becomes *r* after the vowel of *ā-*, *ē-*, and *i-* stems, and the connecting-vowel by which it is attached to consonantal and *u-* stems (*reg-e-re, tribu-e-re*); the *-i* of *ī-* stems becoming *ē*, as in *capē-re*, present-stem *capī-*.

[It should be noted that some philologists consider *-ēre=-ēse=-asai*, and not *-rē*, to be the infinitive suffix¹. On this view the penultimate *ē* of *reg-ēre, cap-ēre* is part of the original suffix, the *ī* of stem *capī-* disappearing before it: while in *amāre, monēre, audīre*, the initial *ē* of the suffix is absorbed into the long vowel of the stems *amā-, monē-, audī-*.]

The final vowel of the infinitive was originally *ē* (=ei, ai²), and traces of this are found in Plautus, e.g. Truc. ii. 4. 74 (iambic trimeter):—

'Non aúdes aliquod mīhi darē munúsculum?'

and Pseudolus, i. 3. 136, trochaic tetrameter catalectic:—

'Égo scelestus núnc argentum prómerē possúm domo.'

It is still oftener found before the 'caesura' pause in tetrameters and tetrameters catalectic, e.g. Asinaria, ii. 4. 14 (iamb. tetram. catal.):—

'Abscéde, ac sine me hunc pérderē, qui sémper me ira incéndit.'

So *darē*, Ter. Heaut. iv. 4. 2 (724) and other examples quoted by Wordsworth (Fragments, p. 152) from Corssen.

The other Italian dialects have an infinitive form in *-om, -um, -o*, apparently an accusative case of a verbal substantive formed from the verbal-stem without any suffix, like *venum, pessum*, in *venum eo (venero)*, and *pessum do*; and the ordinary supine in *-um* to which attaches a dative or infinitive meaning, e.g. *spectatum veniunt*, 'they come to see.'

¹ Roby, 'Latin Grammar,' i. § 611.

² See Corssen, 'Ueber Aussprache,' etc., ii. pp. 474, 5, 2nd ed.

Passive Inf.
fin. in *-ier*.

(2) Passive infinitive in *ri-er*, *i-er* (*-ri*, *-i*).

(a) One explanation of these forms makes *i-er*=*i-se*, i. e. a passive or reflexive formation from the infinitive active analogous to *amo-r* from *amo-* (see p. 178). Thus *amari-er*=*amare-se*: while for consonant-stems a shortened form of infin. act. is assumed, e. g. *dice-* or *dici-*, whence *dici-er*. It is, however, contrary to the phonetic analogy of Latin that *-se* should thus become *-er*: *amare-se*, *dici-se* would naturally become *amares*, *dices*, or *dicis*, as in 2 sing. *amaris*=*amasi-se* (p. 178). And if the final *r* of *-ier*=*re*=*se*, as in *amor*, then no account is given of the preceding *e*.

(b) To escape these difficulties Corssen devises a new theory, viz. that *-r*=*re*=*se*, and that the rest of the infinitive in *-ier* is a feminine substantive with a suffix *-sia* (after vowels), or *-ia* (after consonants): e. g. from stem *ama-*, *amasia-se*, *ama-sies*, *ama-rier*; from stem *dic-*, *dic-ia-se*, *dic-ies*, *dic-ier*.

These substantives would be analogous formations to *gloria*, *curia*, etc., and the vowel change from *a* to *e* analogous to that between *materia* and *materies*. The theory is perhaps more ingenious than convincing, the mode of composition which it postulates being difficult if not impossible to parallel; and though it avoids difficulties which beset other explanations, it must be ranked with them as a hypothesis upon which little evidence can be brought to bear in either direction.

Roby (Latin Grammar, §§ 614, 15) gives substantially the same explanation as (a) above. Without committing himself to the phonetic change of *-se* to *-er*, he holds that the ordinary passive suffix *-r* (I presume *after* it had taken that form, and its origin as *=se* had possibly been forgotten) was 'added to the active infinitive in the form of *ēr*,' the final *ē* of infin. act. taking the form of *i* before *-er* on the principle of dissimilation (see p. 62). The final *r* was then dropped, because of its ill sound after another *r*, and *ie* contracted to *ī*. The stages of change on this view are *amare-er*, *amari-er*, *amarie*, *amari*. For the shorter forms in consonant and *i-* verbs (*dici-er*, *capi-er*), he accounts in the following way: if the process above described had been followed in these verbs, then, because the penultimate

vowel of infin. act. was short (*dicĕre*), the syllable *ēr* would have come twice over (*dicĕriēr*); but the instinctive desire for economy of utterance dropped the first *er*, i. e. *-ier* was appended directly to the final consonant of the stem. In the absence of evidence for the date and exact process of the supposed changes this view is perhaps as likely to be right as any other.

The period of transition between the two forms (*-ier*, *-i*) can be approximately defined from 220–120 B.C. The ‘Lex Acilia Repetundarum,’ circ. 123 B.C., offers the latest example from inscriptions of the form in *-ier*, which form may therefore be presumed to have passed out of common use after that date. It also offers the first example from inscriptions of the other form in *-i* (*darei*, § 9): but the introduction of this form must have been considerably earlier, as it is more common even in Plautus and Terence than that in *-ier*. The dates mentioned will probably represent with tolerable accuracy the period of fluctuation, before which *-ier*, and after which *-i*, was the regular use. In the poets of the later Republic and the Augustan period, Lucretius, Virgil, Horace, etc., the form in *-ier* is an intentional archaism.

Perfect Participle Active (Greek):—

An Indo-European suffix *-vat*, *-vant* appears to have the meaning of ‘possession of’ or ‘supply with’ anything; e. g. Sanskrit *aṣva-vān* (stem *aṣva-vat*)=‘supplied with’ or ‘possessed of horses.’ In Greek this suffix appears as *-fēvτ*, which (with loss of digamma) is found in the adjectival termination *-εις*, *-εσσα*=*-εντ-s*, *-εντ-γα*: *ἰχθυό-εις*, *νιφό-εις*, *χαρί-εις*, etc. (stem *ἰχθυό-fēvτ*, *νιφό-fēvτ*, *χαρί-fēvτ*). In Latin it becomes *-vans*, and (on analogy of *o*-stems) *-vonso*, *-vōso*, which (with loss of *v*) appears in the adjectival termination *-ōso*; *fructu-ōso*, *lumin-ōso*, *forma-ōso* (*form-ōso*, an older form *formonso* being actually found in MSS. of Virgil¹, etc.).

The same suffix was also used to form a perfect participle active, which (as the perfect itself) is expressed in many languages by an auxiliary denoting ‘possession,’ ‘I have done.’

¹ E. g. Ecl. v. 86.

Greek
Perfect
Participle.

Sanskrit has a perf. part. in *-vān* (nom. masc.), *-vat* (neut.), to which corresponds the Greek perf. partic. active *-ός* = *For-s*, neuter *-ός* = *For* (the stem appearing in oblique cases *-όν-ος*, *-όν-ι*, *-όν-α*): while the feminine *-ῖα* = *-υγα* apparently results from the combination of another suffix *-vas* (*-us*) with the feminine suffix *-ya*, and corresponds to Sanskrit *-ushi*. Thus Sanskrit *ba-bhu-vān* = *πεφύώς*, *ba-bhu-vat* = *πεφύός*: *vid-vān*, *vid-ushi*, *vid-vat* = *φειδώς*, *ιδύια*, *ειδός* (root *fid*). The effect of the digamma is seen in such forms as *έστα-όρες* (Epic), which later Greek contracted into *έστώτες* on analogy of other contracted forms, but which was preserved from contraction while a consciousness of the original digamma in *έστα-φόρες* survived.

Present Participle Active.

Present
Participle
Active *-ant*,
-nt.

This (as well as the future and aorist participles) is formed in Greek and Latin, and in other Indo-European languages, by a shorter suffix *-ant* or *-nt* (with consonant and vowel-stems respectively). Thus in Greek, from verb-stem *εσ-*, *φέρ-*, we have part. *έσ-οντ-*, *φέρ-οντ-*; from stem *ιστα-*, *ιστα-ντ-*; *ντ-s* in nom. sing. sinking to *ν* or *s* with long vowel preceding. So from *είμι* (*έσ-μί*), *ές-οντ-s*, *έοντ-s*, *έ-ών*, later *ών*: from *ίστημι* (*ιστα-*), *ιστα-ντ-s*, *ιστάς*: in 1 aor. act. *λυσσά-ντ-s*, *λυσσάς*: and in 1 aor. pass. *λυθεντ-s*, *λυθείς*. The feminine forms are due to addition of *-ya*, e.g. *έσ-οντ-ya*, *έοντ-ya*, *έούσα*; *ιστάς* = *ισταντ-ya*; and in 1 aor. *λύσσασα* = *λυσάντ-ya*. In these forms the combination *ντ* sinks to *σ* (as in 3 plur., p. 176) with compensatory raising of the preceding vowel, and the *y* sound disappears, but remains in fem. substantives, — *γερονσία* = *γεροντ-ια*, etc.

In Latin the ordinary participle stem is *ent-* (older *ont-*, *unt-*, in *e-unt-is*, etc.). *Praesens*, *absens* preserve a participle of *sum*, which exactly corresponds to that of *είμι* given above, e.g. *(e)s-ent-s* = *έσ-οντ-s*; the termination *-nts* of nom. sing., which in Greek becomes *-ων* (or in 1 aor. *-ās*), becoming *-ns* by the phonetic laws of Latin. The feminine forms corresponding to those of Greek are not used as participles, but are common as feminine substantives, *sapient-ia*, *abundant-ia*, etc.

Greek Middle and Passive Participle in -μενος :—

The participial suffix *-μενο-*, by which are regularly formed

the present and future, middle and passive, the aorist middle and perfect passive participles, seems to represent an original Indo-European *-mana*, one of the many developments of the element *-ma* in the formation of nominal stems (see above, p. 102). In Sanskrit this appears as *-māna*, forming middle and passive participles from the present, and strong aorist, and future stems; in Zend as *-mna*, also participial; in Latin as *-mino*, *-mno* forming substantives like *ter-minu-s*, *fe-minu*, *alu-mnu-s*, and with traces of a participial signification in the isolated verb-form of 2 plur. passive, *amamini*, etc. (see above, p. 178). Thus we have, from the stem *bhar*, Sanskrit *bhara-māna*, Zend *bare-mna*, Greek *φερόμενος*, Latin *feri-mini*.

Middle and
Passive
Participle
-μενος.

Latin Past Participle Passive in -tus, and Supines:—

The suffix *-ta* (above, p. 102), one of the commonest noun-suffixes among Indo-European languages, seems to have become at one period a regular mode of expressing the idea of a perfect passive participle ('having been' . .). This function it retains in the Italian languages, e. g. Latin *scripto-*, Umbrian *scriit-to*, Oscan *scrifto-*; but here also there are many traces of a less closely defined use of the suffix in the formation of verbal nouns both substantive and adjective¹, as in the Greek verbal adjective termination *το-s*, and nouns of action like *κρι-τής*, *ποιη-τής*, etc. Such traces are found in the many verbal substantives in *-tus*, declined sometimes as *o-* stems, more often as *u-* stems, —*gemi-tus*, *fremi-tus*, *par-tus*, etc.; and the 'supines' in *-um* and *-u*, which are obviously accusative and ablative cases respectively of such a verbal substantive, often not to be distinguished in form from the substantive itself actually in use. Compare, for example, the substantive *visus* as used by Virg. Aen. ii. 212, 'Diffugimus visu exsanguis,' with the supines *visum*, *visu* of the verb *video*. The perfect part. passive, supines, and such verbal substantives, have therefore one common element of formation, viz. the suffix *ta-* (*to-*, *tu-*); and the stem formed by the addition of this suffix is sometimes spoken of as the 'Supine-stem,' understanding by that term the base or stem common to

Latin Past
Participle
Passive in
-tus, and
Supines.

¹ A list of Latin verbs, with their perfects, supines, etc., is given in Roby's, 'Latin Grammar,' i. ch. xxx. pp. 239-264.

these various formations from verbal stems. And in treating here of the formation of the past participle passive in *-tus* it will be convenient in some cases to borrow examples from the head of 'supines' or 'verbal substantives.'

Phonetic
Changes of
Vowel-stems
on addition
of *-to*.

Phonetic
Changes on
addition of
Past Partic.
Suffix *-tus*
to Vowel-
stems.

The addition of the element *-to* to the verbal-stem is marked in some cases by certain phonetic changes, which may be shortly noticed here. In the formation from *ē*-stems, the stem-vowel becomes shortened to *ĭ* in Latin, e. g. *monĭ-tus* (*monē-*), *tacĭ-tus* (*tacē-*). With *ā*-stems it generally remains as in *amā-tus*, but is sometimes shortened to *ĭ*, *domĭ-tus* (*domā-*), *attonĭ-tus* (*tonā-re*); this *ĭ* being absorbed by a preceding *v* in *adjū-tus* = *adjuvĭ-tus* (*juvā-*), and *lavtus* = *lavĭ-tus* (*lavā-*), cp. *cavtus* = *cavĭ-tus* (*cavē-*), and *fōtus*, *mōtus*, in which the *v* sound has also been absorbed into the preceding vowel. With *ī*-stems the *ī* remains, as in *audī-tus*, *molī-tus*; but is occasionally dropped out, as in *sanc-tus* (*sancĭ-tus* being also in use), *comper-tus* (but *perī-tus*).

From the cases above mentioned, in which *ĭ*, preceding the participial element *-to*, is a degradation of sound from *ā* or *ē*, must be distinguished those in which *ĭ* is either part of the stem, or a connecting-vowel. In *gem-ĭ-tus*, *vom-ĭ-tus*, *gen-ĭ-tus*, *frem-ĭ-tus*, and a few similar formations from consonant-stems, it may be only a connecting-vowel introduced for the sake of euphony (see above, p. 165). Without it the forms from stems *gem-*, *vom-*, *frem-* would, by the ordinary euphonic laws of Latin, either have lost their characteristic *m*, becoming *fren-tus*, *von-tus*, *gen-tus*, or have assumed the ugly forms *fremptus*, *vomptus*, *gemptus*, by the insertion of *p* sound which seems to follow naturally upon the transition from *m* to *t*, *s*, or *l* [cp. *sum-p-tus*, *sum-p-si*, *tem-p-lum* (*τέμ-ερος*¹)]. Roby (§ 698) suggests that the forms *alt-tus* (post-Augustan) and *molĭtus*, from *al-ere*, *mol-ere*, may be due to a desire to distinguish these participle forms from the adjectives *altus*, *moltus*; and that *strept-tus*, *genĭ-tus* may have originally had stems in *a-* (*strepa-* and *gena-*, cp. *gna-scor*, *gna-tus*). In *pos-ĭ-tus* (*pōno* = *pos-no*, *pos-ui*) the connecting-vowel is employed, but not universally, in

¹ Thus *hiemps*, *tempto* (not *hiems*, *tento*) are the correct forms.

the compound forms; e. g. *repos-tus*, *compos-tus* and *compositus*, *sepos-tus* and *sepositus*. Past Participle Suffix -tus.

Verbs in *-to*, whose present-stem is formed by addition of *i=ya* to the verbal-stem (above, p. 210), generally affix the supine or past participle element direct to the verbal-stem, e. g. *capī-o*, *cap-tus*. Where *i* appears, it may be regarded either as the *i* of present-stem, or more probably as a connecting-vowel; e. g. *fug-ī-tum* (*fug-ī-o*, *fug-i*, *fūg-a*), where the insertion of a connecting-vowel preserves the characteristic *g*, which otherwise would have become *c* before *t*, as in *fractus* (see p. 49). So we have *elici-tum*, but *illec-tum*; and in certain words the connecting-vowel, not used before the past-participle and supine, is inserted before the fut. participle for euphony (*or-tus*, *or-ī-turus*; *mor-ī-turus*; *par-ī-turus*, *par-tus*).

Verbs in *-uo* (*u-* stems) generally have *ū* preceding *t* of participle or supine, e. g. *acū-tus*, *exū-tus*, *imbū-tus*, etc. The stem-vowel of such verbs being generally *ū*, the *ū* is perhaps due to coalescence of a connecting-vowel with the stem-vowel, e. g. *imbū-ī-tus*, *imbū-tus*. A few verbs retain *ū*, e. g. *rū-tum* (according to Varro *rūtum*), the future participle being *rū-ī-turus*, cp. *ob-rūtus*: and *clū-tus* from *clu-eo* (κλύ-ω), whence *in-clu-tus*.

With consonant-stems the suffix *-t-* appended to the verb-stem is sometimes softened to *s*, usually by the influence of a preceding dental (all dental-stems having *-sus*, *-sum* in past participle and supine¹). The dental either drops out, the preceding vowel being lengthened in compensation (e. g. *divī-sum* = *divīd-tum*, *man-sum* = *mand-tum*, or it is assimilated (*mes-sum* = *met-sum*, *quas-sum* = *quat-sum*). *Lap-sus* from *lab-or* illustrates the same process after a labial: and *fixus* (= *fic-sus* for *fig-tus*) after a guttural. The guttural, however, often drops out, e. g. *par-sum* = *parc-tum*, *spar-sus* = *sparg-tus*. [*Fig-tus* would naturally become *fic-tus* (see p. 49), and this would lead to confusion with *fic-tus*, part of *figo*. And in this and most other cases of change to *s*, otherwise than after a dental (as above) or after a liquid and some other consonant (*ard-arsum*, etc.), it is noticeable that the perfect active, if any,

¹ For examples, see Roby, § 707, 8.

is formed with *-ei* : so that the *s* of participle and supine may be the result of analogy from that of the perf. act.]

Future Participle in -turus (Latin):—

Connection
of Future
Participle
Suffix with
Noun-suf-
fixes *-tar*,
etc.

The termination of the stem of fut. partic. active in *-turo* appears to represent an Indo-European *-tara*, a variety of *-tar*, which is largely used in the formation of nouns of agency (*-tar*) or implement (*-tra*). In Sanskrit and Zend the suffix appears as *-tar*, *-tra*. In Greek it appears as *-rep* in *πα-τήρ*, *πα-τέρ-ος*; *σωτήρ* = *σώτερ-ος*, etc.; or *-τορ* in *ῥήτωρ*, *ῥή-τορ-ος*; *ἱστωρ*, *ἱστορ-ος*, etc.; and a feminine *-τρια* = *tar-ya* is found in *ποιήτρια*, etc.; while in other cases the *i* of the feminine suffix *ya* is thrown back into the previous syllable, e.g. *σώτεια* = *σώτερ-ya*, *δότεια* = *δότερ-ya*. Another specially Greek form is a feminine stem in *-τιδ* = *tarid*, formed by suffixing *-id*, e.g. *παρίς*, *πα-τιδ-ος*. *-tra* appears as *-τρο* or *-θο* (neut.), and *-τρα*, *-θα* (fem.), e.g. *ὑπ-τρο-ν*, *ἄπο-τρο-ν*, *ῥή-θο*, *μάχ-τρα* (root *μακ-* of *μάσσω* = *μάχ-γω*), *κοιμή-θο*, etc. Latin has forms almost identical: *pa-ter*, *ma-ter*, etc.; nouns of agency, as *vic-tor*, *censor* = *cens-tor*, *sponsor* = *spond-tor*, etc.; of implement, as *ara-tru-m*, *claus-tru-m* = *claud-tro-m*, *ros-tru-m* = *rod-tro-m*. The suffix is also further increased by *-ya* to *-trio*, *-torio* (*pa-trio-s*, *victoria*); by *-ic* to *-tric*, a feminine suffix, as in *victric-s*; by *-ino*, as in *doc-t(o)rina*. To the longer form *-tara* corresponds *-turo* of fut. partic. act., and feminine nouns of action, e.g. *sepul-tura*, *usura* = *ut-tura*.

APPENDIX I.

Specimens of Latin Inscriptions from 250 B.C. to the close of the Republic.

THE following selection of Latin Inscriptions is given as a fuller and more connected illustration of those gradual changes in the form of Latin words, to which incidental allusions have been necessary in the preceding pages. For the text of the inscriptions cited I am immediately indebted to selections made from the *Corpus Inscriptionum Latinarum* (ed. Mommsen) and Ritschl's *Priscae Latinitatis Monumenta Epigraphica* by Messrs. Wordsworth (in 'Fragments and Specimens of Early Latin') and Roby ('Latin Grammar,' vol. i. Appendix B); of the general accuracy of whose citations I have satisfied myself by comparison with the authorities whom they have followed. The inscriptions are all in 'uncial' (i. e. capital) letters. The vertical strokes denote the ending of lines on the original inscription: but in the version (in italics) of the Scipionic Epitaphs they mark the 'caesura' of the Saturnian metre.

I. Epitaphs of the Scipios:—

1. On L. Cornelius Scipio Barbatus, consul 298 B. C. (Inscription not later than 240 B. C.)

cornelius . lucius . scipio . barbatus . gnaiuod . patre | prog-
natus . fortis . uir . sapiensque—quouis . forma . uirtutei . pari-
suma | fuit—consol . censor . aidilis . qaei . fuit . apud . uos—
taurasia . cisauna | samnio . cepit—subigit . omne . loucanam
. opsidesque . abdoucit. |

Cornelius Lucius | Scipio Barbatus,

Gnaeo patre prognatus | fortis vir sapiensque,

*Cujus forma virtu | ti parissuma fuit,
 Consul, censor, aedilis | qui fuit apud vos
 Taurasiam Cisaunam | Samnium cepit
 Subigit omnem Lucaniam, obsidesque abducit.*

2. On L. Cornelius Scipio, consul 259 B. C. (Inscription perhaps earlier than No. 1.)

honcoino . ploirume . consentiont . r
 duonoro . optumo . fuise . uiro
 luciom . scipione . filios . barbati
 consol . censor . aidilis . hic . fuet . a
 hec . cepit . corsica . aleriaque . urbe
 dedet . tempestatebus . aide . mereto

*Hunc unum plurimi con | sentiunt romai (i.e. romae)
 bonorum optimum fu | isse virum virorum,
 Lucium Scipionem. | Filius Barbati
 consul, censor, aedilis | hic fuit apud vos.
 Hic cepit Corsicam Aleri | amque urbem pugnando;
 dedit tempestatibus | aedem merito votam.*

3. On P. Cornelius Scipio, perhaps son of Sc. Africanus Major, augur 180 B.C. (Inscription about 160 B.C.)

quei . apiceinsigne . dial aminis . gesistei |
 mors . perfe tua . ut . essent . omnia |
 breuia . hon os . fama . uirtusque |
 gloria . atque . ingenium . quibus . sei |
 in . longa . licui set . tibe utier . uita |
 fa . cile . factei superases . gloriam |
 maiorum qua . re . lubens . te . ingremiu |
 scipio . recip t terra . publi |
 prognatum . publico . corneli

*Qui apicem insignem dialis | flaminis gessisti,
 mors perfecit tua ut | essent omnia brevia;
 honos fama virtusque | gloria atque ingenium,
 quibus si in longa licuis | set tibi utier (i.e. uti) vita
 facile factis superasses | gloriam majorum.
 Quare lubens te in gremium, | Scipio, recipit
 Terra, Publi, prognatum | Publico Corneli (i.e. Cornelio).*

4. On L. Cornelius Scipio (uncertain who is meant). The inscription dates about 150 B.C.)

l. cornelius . cn . f. cn . n. scipio . magna . sapientia |
 multasque . uirtutes . aetate . quom . parua |
 posidet . hoc . saxsum . quoiei . uita . defecit . non |
 honos . honore . is . hic . situs . quei . nunquam |
 uictus . est . uirtutei . annos . gnatus . xx . is |
 d ei . s . datus . ne . quairantis . honore |
 queiminus . sit . mand u

*Lucius Cornelius, Cnaei filius, Cnaei nepos, Scipio
 magnam sapientiam mul | tasque virtutes
 aetate cum parua | possidet hoc saxum.*

quoiei (i.e. cui) vita defecit | non honos, honorem.

*Is hic situs. Qui nunquam | victus est virtute
 annos natus viginti | is Diti est mandatus:*

ne quaeratis honorem | quiminus sit mandatus.

II. From the Senatusconsultum de Bacchanalibus, (or Epistola Consulium ad Teuranos,) 186 B.C.; cp. Livy xxxix. 8-18.

censuere | homines . plous . u . oinuorsei . uirei . atque
 . mulieres . sacra . ne . quis quam | fecisse . uellet . neue . inter .
 ibei . uirei . plous . duobus . mulieribus . ploustribus | aruise
 . uelent . nisei . de . pr . urbani . senatuosque . sententiad . utei .
 suprad | scriptumest . haice . utei . in . couentinoid . exdei-
 catis . ne . minus . trinum | noun dinum . senatuosque .
 sententiam . utei . scientes . esetis . eorum . | sententia . ita
 . fuit . sei . ques . esent . quei . aruorsum . ead . fecisent quam .
 suprad | scriptum . est . eeis . remcaputalem . faciendam . cen-
 suere atque . utei | hoc . in . tabolam . ahenam . incei-
 deretis . ita . senatus . aikuom . cen suit | uteique . eam .
 figier . ioubeatis . ubei . facilumed . gnoscierpotisit . atque
 | utei . ea . bacanalia . sei . qua . sunt . extrad . quam . sei .
 quid . ibei . sacri . est | ita . utei . suprad . scriptum . est . in .
 diebus . x . quibus . uobeis . tabelai . datai erunt . faciat . utei
 dismota . sient in . agro . teurano .

*Censuere homines plus quinque universi, viri atque mulieres,
 sacra ne quisquam fecisse vellet, neve interibi viri plus duobus,*

mulieribus plus tribus, adfuisse vellent, nisi de praetoris urbani senatusque sententia, uti supra scriptum est.

Haec uti in contione exdicatis ne minus trinum nundinum; senatusque sententiam uti scientes essetis. Eorum sententia ita fuit: siqui essent qui advorsum ea fecissent, quam supra scriptum est, eis rem capitalem faciendam censuere.

Atque uti hoc in tabulam ahenam incideretis: ita senatus aequum censuit;

Utique eam figi jubeatis, ubi facillume nosci possit;

Atque uti ea Bacchanalia, siqua sunt, extra quam si quid ibi sacri est, ita uti scriptum est, in diebus decem, quibus vobis tabellae datae erunt, faciat uti dimota sint. In agro Teurano.

III. Inscription of the same age as S. C. de Bacch., but less antique in spelling, (the former being of a more formal legal nature.) The earliest example of doubled letters.

laimilius . l . f . inpeirator . decreiuit | utei . quei . hasten sium
 . seruei | in . turri . lascutana . habitarent | leiberei . es
 sent . agrum . oppidumqu | quod . ea . tempestate . posedisent
 | item . possidere . habereque | iousit . dum . poplus . senatus
 que | romanus . uellet . act . incastreis | ad . xii . k . febr

IV. From an inscription at Polla in Lucania, recording works executed by P. Popillius Laenas, consul 132 B.C.

niam . feci . ab . regio . ad . capuam . et | in . ea . uia . ponteis
 . omueis . miliarios | tabelarios que . poseiuei . hince . sunt |
 nouceriam . meilia . ¶ I . capuam . XXCIII . | muranum . ¶ XXXIII
 . cosentiam . CXXIII | ualentiam . C¶XXX . ad . fretum . ad sta-
 tuam . CCXXXI | et . . eidem . praetor . in | sicilia . fugiteiuos .
 italicorum | conquaesiuei . redideique | homines . DCCCCXVII .
 eidemque | primus . feci . ut . de . agro . poplico | aratoribus
 . cederent . paastores | forum . aedisque . poplicas . heic . feci .

[Note in this inscription the fluctuation between *ē*, *ei*, *ī* (*homines*, *ponteis*, *feci*, *fecer*) and one example of doubled vowel (*paastores*).]

V. Two inscriptions found at Capua and Aeclanum, and assigned by Ritschl (*Pr. Lat. Monumenta*, LXIII A, LXIII C)

to the years 108 and (about) 90 B.C.; but exhibiting in some forms (e. g. *venerus*, *loidos*, *moiros*) the spelling of a considerably earlier period.

1. *heisce . magistreis . venerus . iouiae . muru | aedificandum*
. coirauerunt . ped CC↓xx et | loidos . fecerunt . ser . sulphicio .
m . aurelio . cof.

Hi magistri Venetis Joviae murum aedificandum curaverunt
pedes CCLXX et ludos fecerunt, Servio Sulpicio Marco Aurelio
consulibus.

[*cof.* is a stone-cutter's mistake for *cos.*]

2. *c . quinctius . c . f . ualg . patron . munic | m . magi . min*
. f . surus . a . patlacius . q . f | III uir . d . s . sportas . turreis .
moiros | turreisque . a . equas . qum . moiro | faciundum . coi-
rauerunt.

C. Quinctius, Caii filius, Valgus patrortus municipii, M.
Magius, Minucii filius, Surus, A. Patlacius, Quinti filius, quat-
tuor viri de senatus sententia portas, turres, muros, turresque
aequas cum muro faciundum (error for *faciundas*) *curaverunt.*

VI. From Sulla's Law 'de xx quaestoribus,' B.C. 80; cp.
 Tac. Ann. xi. 22.

q . urb . quei . aerarium . prouinciam . optinebit . eam | mer-
cedem . deferto . quaestorque . quei . aerarium . prouin ciam |
obtimebit . eam . pequniam . ei . scribae . scribeisque . herediue
| eius . soluito . idque . ei . sine . fraude . sua . facere . li . ceto
. quod | sine . malo . pequlatu . fiat . olleis que . hominibus .
eam | pequniam . capere . liceto.

VII. From Lex Julia Municipalis, B.C. 45.

quae . uiae . in . urbem . rom . propiusue . . r . p . q . ubei .
con tinente . habitabitur . sunt . erunt . quouis . ante . aedificium
. earum . quae | uiae . erunt . is . eam . uiam . arbitrato . eius .
aed . quoi . ea . pars . urbis . h . l . ob . uenerit . tueatur . isque .
aed . curato . uti . quorum | ante . aedificium . erit . quamque
. uiam . h . l . quemque . tueri . oportebit . ei . omnes . eamuiam

. arbitratu . eius . tueantur . neue eo | loco . ao . consistat . quomi
nus . conmode . populus . ea . uia . utatur.

[*p . q .* is a mistake for *p . m . = passus mille.*]

VIII. A monumental inscription upon a young actress, dated by Mommsen (C. I. R. 1009) and Ritschl (*Pr. Lat. Mon. LXXXI.*) at the end of the Republic, and exhibiting in the main the orthography familiar to us in classical Latin: most of the peculiarities being due to the carelessness of the mason who cut the inscription (e. g. *propiravit*, line 7; *denecavit* for *denegavit*, l. 9; *deposierunt* for *deposuerunt*, and *infistae* for *infestae*, l. 14). The 'apex' (see above, p. 48) is found on two words only, *lėti* (l. 1) and *hóra* (l. 7).

Eucharis . liciniae . l

docta . erodita . omnes . artes . uirgo . uixit . an . xiiii

heus . oculo . errante . quei . aspicias . létı . domus
morare . gressum . et . titulum . nostrum . perlege
amor . parenteis . quem . dedit . natae . suae
ubei . se . reliquiae . conlocarent . corporis
heic . uiridis . aetas . cum . floreret . artibus
crescente . etaeuo . gloriam . conscenderet
propirauit . hóra . tristis . fatalis . mea
et . denecauit . ultra . uitae . spiritum
docta . erodita . paene . musarum . manu
quae . modo . nobilium . ludos . decorauchoro
et . graeca . inscaena . prima . populo . apparui
en . hoc . in . tumulo . cineremnostri . corporis
infistae . parcae . deposierant . carmine
studium . patronae . cura . amor . laudes . decus
silent . ambusto . corpore . et . leto . tacent
reliqui . fletum . nata . genitori . meo
et . antecessi . genita . post . leti . diem
his . hic . septeni . mecum . natales . dies
tenebris . tenentur . ditis aeterna domu
rogo . ut . discedens . terram . mihi . dicas *leuem*.

APPENDIX II.

A.—Adverbial Terminations in Latin.

THE following list of the various terminations of Adverbs, Prepositions, or Conjunctions in Latin will supply more or less obvious illustrations of the statement on p. 93, that they are all in their origin case-forms of Nouns. A few examples only of each are given; and for a more complete list the student is referred to Roby's Latin Grammar, i. §§ 508–547, from which this arrangement is borrowed.

I. Vowel-endings :—

-*ā* : *eā, hāc, circā, juxtā, suprā, contrā* [ablative sing. feminine from *a-* or *o-* stems] : *anteā, propterea, postillā*, etc., seem to be accus. plur. neut. (see p. 155).

-*ā* : *idā, quidā* [apparently accus. plur. neuter].

-*ae* : *prae* [probably locative -*ai*, or dat. with locative force].

-*ō* : a common adverbial termination, originally ablative singular of -*o* stems=older -*ōd*; cp. Greek *οὔτω, οὔτως*.

(1) From substantives : *ergo* (*ἐργον*), *extemplo* (= *extempulo*, diminutive of *ex tempore*), *illico* (*in loco*), *modo*, etc.

(2) From adjectives and participles : *cito, denuo* (*de novo*), *omnino, subito, vero; improviso, necopinato*, etc.

(3) Numeral adverbs ; *primo, secundo*, etc. ; so *immo* (= *imo*, 'at the lowest or least'), *postremo*, etc. [ablatives with local signification,—in such a place.]

(4) Pronominal, chiefly of direction to a place (perhaps originally adverbs of manner or circumstance) : *eo, quo-ad* ('whither to'), *illoc* (Plautus, later *illuc*), *intro, porro* (*πρόπως*).

Adverbial
terminations
in Latin.

Under this head come the adverbs of direction ending in *-orsus*, *-orsum*, i. e. *-o-vorsus*, *-o-vorsum*, 'turned towards'; a combination analogous to *quo-ad*, *ad-eo*.

(5) Adverbs formed by suffix *-do*: *quando* (*quam-do*), *endo*, or *indu*, an old form of *in*, seen in the forms *endoperator*, *induperator* (Ennius), and *indigeo* (*indu*, *egeo*).

-u: *diu*, *noctu*, *du-dum* (= *diu-dum*?). Ablatives.

-ē: the common adverbial termination from positive and superlative adjectives with *-o* stems [apparently ablative sing.; see above, p. 124]; e. g. *valde*, *vere*, *fere*, *ferme*. *Apprime* (prae-Ciceronian) is probably = *ad prima*, an adverbial expression analogous to *imprimis*; the *ē* being due to the analogy of other adverbs.

-ē: generally speaking a shortened form of the preceding (*-ē*) termination, like abl. sing. in *-ē* of 3rd decl. (p. 125).

(1) From *-o* stems (as *-ē* above): *bēne* (*bono-*), *malē*, *superne*, etc.; and possibly *mactē* in the phrase *macte virtute esto* (though this is more probably a vocative case).

(2) From other stems: *abundē*, *facilē*, *impunē*, *magē*, *sponsē* (abl. of *spons*).

-pē: a form of *quē*, e. g. *nem-pe* (= *nam-pe*, cp. *namque*).

-vē: perhaps = *vel*, thus *neve* = 'or not.'

-cē: *eccē* = *en-ce*, *sic*, etc.; and appended to locative adverbs, *hic*, *illic*, etc. (see p. 153).

-quē: a case-form of *qui*, appended to pronouns and pronominal adverbs (perhaps, as Roby suggests, a kind of reduplication): *quis-que*, *quando-que*, etc.; so with prepositions and conjunctions, *absque*, *atque* (*ac-que*), *namque*, etc.

-ptē: *suopte*, etc.; possibly = *pōte*, as in *ut-pote*.

-dē: *in-de*, *undē*, etc. Perhaps = *dē* (preposition) shortened by loss of accent.

-nē: *sinē*, *pone* (= *pos-nē*). Probably the same as the interrogative particle *nē*, which again may = *nē*, 'verily' (wrongly written *nas* from analogy of Greek *ναί*, *νή*).

-ī (occasionally shortened to *ī*):—

(1) Ablative cases of manner: *quī*, *quīn* (*qui-ne*), *si* (abl. of a pronoun = 'in which case'), *sic* (= *si-ce*, 'in this way'), *utī*

(probably=*quo-ti*, 'in which way,' *ti* being=*si* above, *brevi*, *proclivi*, etc. Adverbial terminations in Latin.

(2) Locative (or Dative) cases; *illi*, *isti* (Plaut., Ter.), more usually *illīc*, *istīc*; *herī*, *temperī*, etc.: and in the termination *-bi* of pronominal adverbs, *ibi*, *ubi*, etc.

II. Consonant-endings (Labial and Dental):—

-b: *ab*, *ob*, *ub*=Greek *ἀπό*, *ἐν*, Sanskrit *apa*, *upa*, from pronominal stem *-pa* (p. 98, note). The form *ūpai* suggests a locative case.

-am: probably accusative cases, e. g. *quam*, *obviam*, etc., and thence by analogy to such forms as *coram* (*cum*, *os*), *perperam* (*per-per-am*), 'thoroughly,' in termination *fariam* of *bifariam*, etc.; and in suffix *-dam* appended to pronouns and pronominal adverbs—*quidam*, *quondam*, etc. (see p. 156).

-om (*-um*). Accusative cases: *donicum* (Plaut.), later *donec*, *dum*, *quom* (*cum*); *actutum*, *circum* (stem *circo-*), *clanculum* (*clam*, with diminutive suffix), *extremum*, *parum*, etc.; *rursum*, *adversum*, etc.

-em: accusative cases: *propediem*; *-tem* in *autem*, etc. (from pronominal stem *ta-*, see p. 156; *-dem* in *quidem*, etc. (cp. *-dam* above).

-im: (1) in pronominal adverbs, with the meaning of 'at' or 'from' a place; and so apparently a locative termination (see above, p. 127), e. g. *illim*, *hinc* (*him-ce*), *enim* (=in-im, *im* being locat. of *is*).

(2) In termination *-tim* (*-sim*) of adverbs from or similar to past participles: *raptim*, *conjunctim*, *mixtim*, *strictim*, etc.; *sta-tim* (*sta-re*= 'as you stand'), *confestim* (perhaps from *conferire*), etc.; *partim*, *ubertim*, *vicissim*, etc. These may also be locative cases, with the meaning of 'circumstance under which,' but such a form as *partim* is suggestive of the accusative case, which (as we have seen, p. 115) is thus formed with certain nouns of the consonant or *i*-declension. From verbs or nouns with *a-*, *u-*, or *i-* stems we have adverbs in *-a-tim*, *-u-tim*, *-i-tim*: e. g. *certatim*, *nominatim*, *minutim*; *gregatim*, *turmatim*, *generatim*, *tributim*, *viritim*, etc.

-d in *ad sed*, *haud*, *apud* is perhaps the old ablative suffix

Adverbial
terminations
in Latin.

(p. 124); and *quod* in *quodsi*, *quod utinam*, etc., is by some called an ablative. But *quod*=‘because’ is most naturally accus. of respect (cp. Greek *ὅτι* and the use of *ὅ*=‘whereas’); and the same explanation must hold in the other phrases with which it is compounded.

-*t* in *ast*, *et*, *at*, may be only a phonetic variety of -*d* (*haut* and *set* are given as varieties of *haud*, *sed*); *ut* seems to be short for *uti*. It is true that Greek *ὥς*=*ὥτ*, the ablative of *ὅς* (see p. 124), rather points to the *t* as final; but then *uti* would be a different word: and as this is improbable, it seems better to give up the attempt to show that *ὥς* and *ut* are identical.

-*n*: *an*=Greek *ἀν*, which by some is connected with *ἀνά*; *en*, in (*endo*); *quin*=*quine*.

-*l*: *procul*, *simul* (older *semol*=*simile*), accusative neuter: *vel*, perhaps imperative of *volo*.

-*er*: the suffix of the comparative degree in *super* (comparative of *sub*=‘up’) and its compounds.

-*per*: same word as *per* (preposition), connected with *παρά*, *περ-αί*, *pierce*, etc., always of time; *nuper* (*novumper*), *semper*, etc.

-*ter*: a common adverbial suffix from nouns of *o*- and *i*-stems, by some identified with -*tus*, and regarded as an extension of the ablative suffix -*d* or -*t*, by others connected with the comparative suffix seen in Greek *-τερο-*, Latin *de-ter-ior*, etc. (see p. 133).

-*tus*: appears to=Sanskrit -*tas* of adverbs, and perhaps Greek -*θεν*, as -*mus* of 1st pers. plur.=Greek -*μεν* (see p. 169): but -*θεν* more probably=another suffix -*dhas*.

-*as*: *alias*, *foras*, etc., accusative plural.

-*us*: *secus*, *tenuis*, etc.; perhaps neuter accusatives.

-*is*: (1)=*ios* (*ius*), neut. acc. of the comparative suffix (p. 133): *magis*=*magios*, *nimis*=*nimios*. Perhaps this is the origin of *is* in *paullisper*, *tant-is-per*, etc. (2) Ablative plur. in *foris*, *gratis* (*gratiis*), etc.

-*iens* or -*iēs* the suffix for numeral adverbs, connected perhaps with the comparative suffix -*yans* (Sanskrit *īyan(s)*, *īyas*; Greek -*ίων*, -*ιον*; Lat. -*iōs*, -*ius*: see pp. 132, 133).

B.—Adverbial Terminations in Greek (Homeric).

[From Homer, *Iliad* I, edited by D. B. Monro. Clarendon Press, 1878.]

The chief suffixes used to form adverbs in Homer are as follows:—

-*θι*, expresses the *place where*: as *τό-θι*, *ῥ-θι*, *πό-θι* (=Attic *ποῦ*), *κεῖ-θι* (=Attic *ἐκεῖ*), *αὐτό-θι* (=Attic *αὐτοῦ*), *ἔκτο-θι*, *ἔνδο-θι*, *ἀπόπρο-θι*, *ἐγγύ-θι*, *ὑψό-θι*, *νειό-θι*, *ἐτέρω-θι*, *οἶκο-θι*, *ἡῶ-θι*, *οὐρανό-θι*, *κηρό-θι*, *Ἰλιό-θι*, *Κορινθό-θι*.

-*θεν*, *place whence*, used with nearly the same stems as -*θι*; as *ῥ-θεν*, *πό-θεν*, *κεῖ-θεν*, *ἐτέρω-θεν*, *ἡῶ-θεν*, etc. It is often used after *ἐξ* and *ἀπό*, as *ἐκ Διό-θεν*, *ἀπ' οὐρανó-θεν*. There is also a suffix -*θε(ν)*; *πρόσ-θε(ν)*, *in front*, *ὀπίσ-θε*, *ὀπι-θεν*, *behind*, *ὑπερ-θε(ν)*, *ἔνερ-θε(ν)*, *πάροι-θε(ν)*.

-*σε*, *place whither*, as *πό-σε*, *κεῖ-σε*, *ἐτέρω-σε*, *ὁμό-σε*, *πάντο-σε*.

-*τος*, *place*, *ἐν-τος*, *ἐκ-τος*.

-*χι*, in *ἧ-χι* *where* (lit. *which way*, like Lat. *quā*).

-*χα*, -*χθα*, with numerals; *δί-χα*, *two ways*, *τρί-χα*, *πέντα-χα*, and *τρι-χθά*, *τετρα-χθά*.

-*δε*, *place whither*, suffixed to the acc., as *οἰκόν-δε*, *πόλεμόνδε*, *ἀλαδε*, etc.

-*δισ*, *direction or manner*; *χάμα-δισ*, *to the ground*, *ἀμυ-δισ*, *together*, *ἄλλυ-δισ*.

-*δον*, -*δην*, -*δά*, *manner*; *ἀποστα-δόν*, *aloof*, *ἰλα-δόν*, *in crowds*, *βοτρυ-δόν*, *in clusters*, *πυργη-δόν*, *in column*; *βά-δην*, *κρύβ-δην*, *κλή-δην*, *ἐπιγράβ-δην*, *ὑποβλή-δην*, *ἐπιστροφά-δην*; *μῖγ-δα*, *κρύβ-δα*, *ἀμφα-δά*, *αὐτοσχε-δά*.

-*ᾶ*, *manner*; *ἄρ-α* (lit. *fittingly*), *ἄμ-α*, *μάλ-α*, *θάμ-α*, *thickly*, *τάχ-α*, *σάφ-α*, *κάρτ-α*, *ρεῖ-α*, *ῶκ-α*, *ἦκ-α*, *οἶψ-α*, *λίγ-α*, *σίγ-α*, *ρίμφ-α*, *πύκ-α*, *κρύφ-α*.

-*η*, *way, direction*; *πάντ-η*, *every way*.

-*ει*, -*ι*, *time, manner*; *αὐτο-νυχ-ει*, *that very night*, *τρι-στοιχ-ι*, *in three rows*, *ἀναιμωτ-ι*, *bloodlessly*, *ἀμογητ-ι*, *without effort*.

-*ου*, *place*, *ποῦ*, *ὁμ-οῦ*, *ἀγχ-οῦ*, *τηλ-οῦ*, *ὑψοῦ*, *αὐτ-οῦ*, in meaning like the adverbs in -*θι*, which are more common in Homer.

-ως, *manner*; a suffix of which there are comparatively few examples in Homer: ὧς, τῶς, πῶς, ὁμῶς, φίλως, αἰνῶς, κακῶς, and a few others from stems in -ο. From other stems, ἀφραδέ-ως, περιφραδέ-ως, προφρονέως.

-ω, chiefly from prepositions; εἰς-ω, *towards*, ἐξ-ω, *outwards*, πρῶπισω, *forwards*, ὑπίσσω, *backwards*, προτέρ-ω, *farther on*, ἐκαστέρ-ω, *farther, farthest*, ἀσσοτέρ-ω, *nearer*; ὧ-δε, οὗτ-ω are exceptional.

Many adjectives are used adverbially in the accusative neuter.

Variations in the endings of adverbs to be noted:—

1. Moveable final -ς; ἀμφίς and ἀμφί, μέχρις and μέχρι, μεσσηγύς and μεσσηγύ, ἰθύς and ἰθύ, πολλάκις and πολλάκι, etc.

2. Prepositions: παραί, καταί, ὑπαί (perhaps locatives, like χάμυι); προτί and ποτί (fuller forms of πρόσ); ἐνί (ἐν). Cp. αἰεί and αἰέν.

3. Apocope occurs in ἀνά (ἀν δέ, ἀμ πεδίον, etc.), κατά (καὶ δέ, καὶ πεδίον, κάβαλε, etc.), and παρά; also in the particle ἄρα.

C.—Table of Cases used Adverbially in Latin.

| Cases used. | | Examples of Adverbs formed. |
|----------------|--------------------|--|
| 1. Accusative— | | |
| Sing. | -m | quom (cum), circum, quam, obviam, prope- diem. |
| " | -d, -s | quod, magis (-ios), secus. |
| Plur. | -ās | alias, foras, etc. |
| " | -ā | quia, ita. Also neut. sing. and plur. of all adjectives. |
| 2. Ablative— | | |
| Sing. | -ō (-ō), -ā, -ū | ergo, subito, primo, illoc, modō, citō, eā, juxta. interea, diu, noctu. |
| " | -ē (-ē), -ī (-ī) | facillimē, benē, quī, brevī, utī. |
| " | -d, -t, -tus, -ter | facillimēd, haud, apud, ast, et (†), caeli-tus, firmi-ter. |
| Plur. | -is | gratis. |
| 3. Locative— | | |
| | -ai, -ae, -i | prae, illi-c, isti-c, herī. |
| | -bi | ubi, ibi. |
| | -im | illim, istim, illin-c. |

D.—Table of Greek Case-forms used Adverbially.

(Those which only exist as adverbs are called specially 'Adverbial Cases,' or, *πτώσεις ἰδίαί* as distinguished from *πτώσεις κοιναί*.)

| Cases employed. | Adverbs formed. | | |
|---------------------------|-------------------|---|------------------|
| | Substantival. | Adjectival. | Pronominal. |
| 1. Accusative | δίην, χάριν, etc. | Compar. neut. sing. Superlat. neut. plur. μακράν (sc. δδόν) | |
| 2. Genitive (Local) | | | οὐ, ὅπου, etc. |
| 3. Ablative— (1) Modal | -ως -ω | -ως (= -ως, Lat. -ōd) -ω (Lat. -ō) in κάτω, κατωτέρω, etc. | ὡς, ὅπως ὡ-δε |

| Cases employed. | Adverbs formed. | | |
|----------------------|---|--------------------|---------------|
| | Substantival. | Adjectival. | Pronominal. |
| (2) Local -θεν | οἴκο-θεν οὐρανό-θεν (<i>caeli-tus</i>) | | ὅθεν, etc. |
| 4. Locative— | | | |
| (1) -οι, -αι | οἴκοι, χαμαί | | οἶ, ποῖ, etc. |
| (2) -θι | οἴκο-θι | π-εῶ-θι | ὅθι, πόθι. |
| 5. Dative (Modal) -ῖ | | | ῖ, ῖπερ, etc. |
| 6. Instrumental— | | | |
| (1) -ῇ | κομδῇ | κοινῇ, πεζῇ, etc. | |
| (or? Dative) | σχολῇ, σιωπῇ | πάντῃ (Dor. παντᾷ) | |
| (2) -α | σιγα | τάχα, ἅμα, etc. | ἵνα |
| (or? Acc. plur.) | | | |

N.B.—The adverbial forms in -ῇ, -α, classed here as instrumental cases, may possibly be Dative Sing. and Accus. Plur. respectively. But the absence of 'i subscriptum' in one case, and the occurrence of parallel forms in -ā in the other, seem to point (cp. p. 131) to the -ā of Indo-European instrumental case as a common origin. The pronominal adverbs ῖ, ῖπερ, etc. appear to be dative cases with locative meaning arising from an ellipse of ὁδῶ, as in the Latin expressions *rectā (via)*, *quā*, *sī quā (ratione)*.

The adverbial suffixes -θα (local), -κα, -τε (temporal), and -σε (local, of direction towards) can hardly be assigned in their present form to any case-termination, but may be assumed to have had a similar origin to others which have been so assigned.

E.—Adverbs in Sanskrit.

Simple adverbs:—

1. From cases of nouns and obsolete words.

(1) From nom. or acc. neuter of any adjective, and of certain pronouns and obsolete words.

(2) From instrum. case (rarely dative) of nouns, pronouns, and obsolete words.

(3) From ablat. case of nouns, pronouns, and obsolete words.

(4) From locat. case of nouns and obsolete words.

2. Adverbial affixes:—e.g. -tas (cp. -*tev*, Lat. -*tus*) with sense of 'with,' 'from,' -tra forming adverbs of *place*; -dā (Lat. -*de*) forming adverbs of *time*.

3. Adverbial prefixes:—e.g. a-, 'privative' (cp. Gk. α-, Lat. *in-*, Engl. *in-*, *un-*); dus-, dur- (Gk. δυσ-) implying 'badly,' 'with difficulty'; su-, 'well,' 'easily' (Gk. εδ).

F.—Comparative Table of Prepositions in Sanskrit, Greek, and Latin.

| Sanskrit. | Greek. | Latin. |
|------------------------------|--------------------------|--|
| ā, 'to,' 'near to' | ἀμφί, Ep. adv. ἀμφίς | ad (amb- in compounds) Germ. um- |
| | ἀνά (adv. ἀνω) | (an- in an-helare, p. 157) |
| | ἀντί | ante |
| apa (dā, adverbial affix) | ἀπό | ab, ab-s, ob de |
| | διά | |
| | εις (= ἐν-s, p. 157), ἐς | in |
| | ἐν, Ep. ἐνί | in |
| | ἐκ, ἐξ (ἐκ-s) | ex, ē |
| api | ἐπί | |
| antar | κατά (adv. κάτω) | inter, intra |
| | μετά | Germ. mit |
| para, 'back,' 'backwards' | παρά | |
| pari | περί (Ep. adv. περί) | per (<i>per-</i> in <i>per-magnus</i>) |
| pra | πρό | pro, prae (<i>pra-i</i>) |
| prati | πρός, Ep. προτί | |
| sam | σύν, ξύν (κσύν, p. 46) | cum |
| | ὑπέρ | super, supra |
| upa | ὑπό, Ep. ὑπαί | sub |

| Sanskrit. | Greek. | Latin. |
|---|--|---|
| abhi, 'to,' 'towards' adhi, 'above' ann, 'after' ati, 'across' ava, 'down,' 'off' ud (ut), 'up,' 'upwards' ni, 'in,' 'on,' 'down' nis, nir, 'out' vi, 'apart' | 'Spurious Prepositions.' ἀνευ ἀχρι, μέχρι μεταφύ ἐνεκα πλην | Other Prepositions of adverbial form, many of them as adverbs. apud circum, circa, circiter cis, citra clam, coram contra, erga, extra, infra juxta, penes pone (posne), post praeter, prope, propter secundum trans, tra- ultra (cp. ultro) versus, versum |
| N.B.—But few of these are used as prepositions with case of nouns; they are more commonly prefixes to verbs or verbal derivatives. | | |

GENERAL INDEX.

A

- Ablative, inflections of, in Latin, 124.
- Accent, effect of, upon decay of vowel sounds in Latin, 60.
- Accusative, inflections of, in Greek, Latin, and Sanskrit, 115 sqq.
- Adverbial terminations, Latin, 247 sqq.; Greek, 251.
- Adverbs originally case forms, 93.
- in Sanskrit, 254.
- Agglutinative stage of language, 4.
- Alliteration, illustrative of the tendency to reduplication, 52.
- Alphabet, relationship of Greek to Phœnician, 40.
- Phœnician, Greek, and Roman, comparative table of, 42.
- Greek, changes and modifications in, 43; Roman, 46.
- Analogy, influence of, upon the forms of language: seen in distinctions of gender, 106; *-es* nom. plur. of consonant-stems, 114; declension of *sus*, *grus*, and gen. sing. *-is* of consonant-stems, and *-i* of *u*-stems, 120; dative dual in Greek, 130; gen. sing. *isti*, 153; *-σθα* of 2 sing., according to Bopp, 171; *amaminor*, 178; conjunctive of verbs in *-μ*, 184.
- Analytic languages, difference of, from synthetic, 159.
- Aorist, 'simple' or 'strong,' 200; reduplicated, 201.
- traces of, in Latin, 201.
- 'weak' or compound, relation of, to strong Aorist, 214.
- passive in Greek, 225.

- Aryan, use and meaning of the term, 10.
- Aspirate sounds, and modifications of (spirants), 34.
- changes of, in Latin, 69.
- Aspiration of unaspirated letters, 77.
- Assimilation of vowels, 61.
- of consonants, 73-79.
- Augment, in Greek and Sanskrit, theories of its origin, 162 sqq.
- Auxiliary verbs, traces of, in Latin, 26.
- (prosthetic) vowels and consonants, 83.

C

- Cases, original number of, 105.
- used adverbially, 253.
- Chinese language, the, 4, 7, 8.
- Chordæ vocales, their part in the formation of sound, 30.
- Classification of languages, morphological, 4; genealogical, 8 sqq.
- of nouns, 108.
- of pronouns, 142.
- of verbs, 167.
- Claudius, the Emperor, his attempt to introduce new letters, 47.
- Comparative philology, questions treated by, 1.
- Comparison of adjectives, 132; comparative and superlative suffixes, *ib.*
- 'Conjugations' of Greek verbs, 168; of Sanskrit, 202.
- Conjunctive, suffix of, 183-51.
- Consonants, meaning of the term, 30.
- classification of, 31-35.
- changes of, 63; general ten-

* *dencies*, *ib.*; substitution, 64;
loss, 70; assimilation, 73; dissi-
milation, 79.
Consonants, insertion of auxiliary,
80, 84.

D

Dative case, inflections of the, 127-
131.
Declensions of nouns, 108; division
of, into vowel- and consonant-
declension, *ib.*
Definite article, development of, in
Romance languages, 26.
Dental sounds, 33.
'Dentalism,' 51.
Derivative suffixes used in forma-
tion of noun-stems, 102.
Derivative verbs, formation of, by
suffix *ya* (ja), 103.
'Digamma Aeolicum,' the, 43, 67.
Diminutives in *-ellus*, *-ollus*, *-illus*,
-ulus, 59.
Diphthongs, formation of, 36.
— weakening of, to simple sounds
in Latin, 56.
Double consonants, when first
written in Latin, 47.
Dynamic change, 51 sqq.

E

Etymology, general principles to be
observed in, 49.
'Explosive' or 'momentary' sounds,
32.

F

Final sounds, loss of, etc., in Greek
and Latin, 72, 73.
'Fricative' or 'protracted' sounds,
32.
Future Active (Greek) in *-σσω*, 218;
in *-ω* (Attic), 219; Latin in *-bo*,
220; in *-so*, *-sim*, *-sere*, 221.
Future Passive (Greek), 227.
'Futurum exactum' in Greek and
Latin, 224.

G

Gender, expression of, in Indo-
European languages, 106.
Genitive Case, inflections of, 118-
123.
Grimm's Law, formulae of, 89, 90.

Grimm's Law, original process of
changes expressed by, 87.
— illustrations of, 86, 91.
Guttural sounds, 33.

I

Imperfect Tense, forms of, in Greek,
213; Latin (*-bam*), 224.
— Subjunctive (*-rem*), 227.
Inchoative verbs, 211.
Indistinct articulation, changes due
to, 79-84.
Indo-European family of languages,
meaning of the term, 9; subdivi-
sions of, 11, 12; comparative
antiquity of, 12, 13; table of, 13;
divergence of, 16.
Infinitive, not a mood but a verbal
noun, 228.
— forms of, in Greek, 229-232; in
Latin, 232-235.
Inflectional (or terminational) stage
of language, 5.
Inflections of nouns, meaning of the
term illustrated, 98.
— of verbs, variety of, 159.
— effects of phonetic change upon,
22 sqq.
Inscriptions, specimens of Latin,
250-45 B.C., 241 sqq.
Instrumental Case, inflections of,
131.
Intensification of vowel-sound, 53.
Iranic subdivision of Indo-European
family of language, 11.
Isolating stage; see 'Radical.'

K

Keltic group of languages, 12, 15.
Kelts, their migrations, 14.
Koppa, the letter, in Phoenician,
Greek, and Roman alphabets, 40,
45, 46.

L

Labial sounds, 33.
Labialism, 51.
'Lautverschiebung' of Grimm's Law,
87.
Liquid sounds, 34.
Locative Case, inflections of, 126.
Long vowel sound, attempts to ex-
press in Roman character, 47.

M

- 'Mediæ,' meaning of term and various names for, 32.
- Medial sounds, loss of, in Greek and Latin, 71.
- Middle Voice, a prior development to Passive, 177.
- Middle or Passive (Medio-Passive) inflections, 178-183.
- Moods, number of possible, and meaning of term, 161.
- Mood-signs, position and function, 161.
- forms of (Conjunctive and Optative), 183 sqq.
- Mutes, meaning of term, and other names for, 30.

N

- Nasal sounds, formation of, explained and illustrated, 33.
- influence of, upon preceding sounds, 77.
- insertion or addition of (Nasalisation), 55; employed in formation of present-stem, 207.
- National peculiarities of utterance, 84.
- Nominative Case, inflection of, 110.
- Numeral signs, Phœnician and Greek, 42; Roman, 46.

O

- Optative, suffix of, in Greek, 185; forms of, traceable in Latin, 186; 'Æolic' in -*σεία*, 217.
- Orthography, fluctuations of, in Latin, 82.

P

- Palatal sounds, 33.
- Paradigms of noun-inflection, 135-141.
- of pronominal inflection, 147-149.
- Participles, Perfect Active (Greek), 235; Present and Aorist, 236; Middle and Passive in -*μενος*, *ιβ*; Passive in -*tus*, 237; Fut. Active in -*turus*, 240.
- Passive Voice, developed from Middle, 177.
- Perfect Active (Greek), strong and weak forms of, 193; aspirated form, 194; Homeric, 188.

- Perfect Active (Greek), Middle and Passive, 194.
- Perfect-stem, formation of, in Greek, 188 sqq.; in Latin, 195 sqq.
- Person-endings of Greek and Latin verb, 161, 169 sqq.
- Phonetic change, influence of, upon grammatical structure, 22 sqq.
- general principles of, 29.
- limited sense of, as involuntary change, 51, 56.
- Plautine prosody, illustrative of decay of vowel-sound, 60.
- Pluperfect Indicative (Greek and Latin), 223; Subjunctive (Latin), 227.
- Prepositions, table of in Sanskrit, Greek, and Latin, 255.
- Present-stem, its relation to the pure verbal-stem, 202.
- different formations of, classified, 203 sqq.
- Pronouns, classification of, 142; inflection of, 143 sqq.
- 'Prosthetic' (auxiliary) vowel, 83.

R

- Radical (or isolating) stage of language, 4.
- Reduplication, origin and general use of, 52.
- employment of in Greek and Latin Perfect, 187, 195; Present-stem, 205; Aorist, 201.
- 'Attic' in Greek, 189.
- Relationship between languages, evidences of, 18.
- illustrations of, for Indo-European family, 23; for Romanic languages, 24, 25.
- Romanic or 'Romance' languages, their descent from Latin, 19.
- Roots, definition of, 94 sqq.
- list of pronominal, 97 note.

S

- Sanskrit, relationship of, to Greek and Latin, 17.
- alphabet, and value of to philologists, 38; Table of, Preface, *ad fin.*
- Scipios, epitaphs of the, 241-243.
- Sclavonic group of languages, 12, 15.

Semivowels (fricative consonants), as distinguished from mutes, 32.
— in limited sense, consonantal sound of *i*, *u*, 35 note.

Senatusconsultum de Bacchanalibus, extract from, 243.

Sounds, relative strength and physical conditions of, 29.

Sounds, relation of, to letters of the alphabet, 37.

Spirants (*s*, *z*, *f*, *v*), their connection with *spiritus asper* and *lenis*, 35.

— changes of, 65-69.

'*Spiritus*' '*asper*,' and '*lenis*,' 34.

Stems, how distinguished from roots and inflected words, 98.

Suffixes, different kinds of, 100.

T

Tense-stems, 160; classification of, 162.

Tenues, meaning of term, and various names for, 32.

Terminational stage of language; see '*Inflectional*.'

Teutonic group of languages, 12.

Thematic (connecting) Vowel, 165.

Transliteration of Sanskrit characters, Preface, *ad fin.*

Turanian family of languages, 8.

V

Verb, how distinguished from noun, 158.

Verb, forms of, more complex than those of nouns, *ib.*

— inflection, elements of, 161.

Vocative, not a case, 105; forms of, in Greek and Latin, 117, 118.

Voice, distinctions of, in Sanskrit and Greek, 177.

Vowels, meaning of term. 30; enumeration of, 35, 36; changes of, 56; substitution, *ib.*; loss, 59; assimilation, 61; dissimilation, 62.

— auxiliary, prefixed or inserted, 83.

Vowel-scales, 54, 55.

W

Word-formation, processes of, 99.

Words, analysis of, into radical and formative elements, 92.

— division of, into noun and verb exhaustive, 93.

INDEX OF SOUNDS AND FORMS EXPLAINED.

[N.B.—In order to keep Greek and Latin forms together in this Index, the different order of the respective alphabets has been thus adjusted: η, ω (= ē, ō) appear under *e, o*; γ under *g*; θ (*th*) under *t*; ζ under *s*; ξ under *x*: φ, χ, ψ, appear in their usual place, after *u*.]

A, the vowel, 35.
— breaking up of, into E, O, 36, 54, 95.
-α, accus. sing., 115.
-ᾶ, instrumental sing., 131.
-α, -κα, perf. termination, 192, 193.
-ᾶ, -ᾷ, adverbial termination (Latin), 247.
-ᾱ, neuter plural, 155.
-α, adverbial termination (Gr.), 251.
-α, thematic, 166.
-ᾱ (orig. ᾶ), I. E. conjunctive suffix, 183.
-α, weakening of, in Latin to *i*, 58.
ab-sens, prae-sens, 236.
accesitis, 228.
acer, acris, 112: *acerrimus*, 134.
ἄδελφε (voc.), *ἀδελφός*, 117.
adeo, 248.
-σε, nom. plur., 113; gen. sing., 121.
αἰδεν, infin. (Doric), 231.
ἀγαγεῖν, 160.
ἄγιος, 66.
ago, actus, ἄξω, 77.
ago, in compounds -*igo*, 58.
ἄγχι, 126.
-αι (archaic), nom. plur., 113; gen. sing., 121.
-αινω, -εινω, verbs in, 104, 209.
αἰεί, alés (Doric), 126.
αἰχμητά, αἰχμητής, 110.
ἀλάημαι, 189.
alicubi, alicunde, 71.
alis, alid, 153.
alius. ἄλλος, 210.
ἑλλομαι (salio), 209.
alterae, dative, 153.
am (Eng.), 169.
ᾶμα, 131, 251.

ἄμβροτος, 84.
ἄμελγες, 2 sing., 170.
ἄμμες, ἄμμε, 66, 74, 82, 144.
ἀμπεπαλῶν, 198.
ἀνά, ἄν, 157, 252.
ἄνασσα, 75.
ἀνδρός, 83.
ante-hac, 124.
-αο, -α, gen. sing., 119.
-αω, -α(ω), derivative verbs in, 103.
Apolones (old genitive), 62.
apprime, adverb, 248.
ar-biter, ar-cesso, etc. (*ad*), 65.
arcesso, 223.
ἀρήροται, 189.
'*Aryan*,' meaning of the term, 10.
-ās (archaic), nom. plur., 113; acc. plur., 117; gen. sing. (archaic), 121.
-as (I. E.), gen. sing., 118.
asellus, 59.
ᾗσεῦμαι (future), 218.
ἄστήρ (*star, stella*, etc.), 17, 83.
-αται, -ατο, 3 plur. (Epic), 182.
Ἀθήνησι (locative), 127.
ἀτρέκης, 95.
'*Atmane-pada*,' (Sanskrit), 177.
au, diphthong, in Latin, 36, 56.
auceps, aucup-is, 61, 109.
ausim, 66, 221.
aya, verbal suffix, 103.

B, formation of sound, 33.
b, confusion of, with *v* sound in Latin, 68.
β, use of, by Greek writers to represent Latin *v*, *ib*.
b, seldom initial in Sanskrit, 90.
β, parasitic, 84.

b, d, parasitic, in modern languages, 84.

-dam, Lat. imperf., 224; quantity of *ā* in, 225.

Βασιλέα (*Βασιλεύς*), 115; *Βασιλέας*, 118; *Βασιλῆος*, 165.

benē, malē, 124.

-bhi (*-φι*), instrumental sing., 131.

-bi, dat. sing., 143; as adverbial termination, 249.

-bhyams, dat. sing. (pronominal), 143; *-bhyams*, dat. plur., 129.

bibo, 205.

bīfariam, adv., 249.

bin (German), 169.

bis = *dis*, 50.

-bo, Latin future in, 220; exceptional forms in, of 3rd conjugation, *ib*.

bovus, bubus, 139.

βοός (*βούς*), 118.

boverum, etc., gen. plur., 123.

brother, frater, etc., 20, 91.

-bus (*-bos, -bios*), dat. plur., 129.

C, in Latin, 31, 46.

— pronunciation of, 37.

capesso, 223.

capiō, in compounds *-cipiō*, 58.

-ce, enclitic termination, 157, 248.

cecidī (*cado*), 59.

ceteri, posteri, etc., 133.

ci, pronunciation of, in Italian, 78.

ci and *ti*, interchange of, in Latin, 78.

cito, adv., 248.

clamor, clarus, 59.

Claudius, Clodius, 56.

coerare, coirare (old forms of *curare*), 56.

cōgo, 59.

condicio, orthography of, 78.

confluxet, 228.

consumpsē, 228.

corolla, 59.

corpus, corpor-is, 58.

coram, 249.

credere, etc. (root *dhā*), 88, 227.

cuculus, 52.

cucurri (*curro*), 59.

cum (*σύν*), preposition, 50.

cum (*quom, quum*), conjunction, 62.

D, formation of sound, 33.

d, change of, to *l, r*, 65.

d, parasitic before *y*, 80.

d, 'old' ablative termination in Latin, 124.

-d, neut. sing. termination (pronominal), 151.

dā, dha, distinction between roots, 88.

δαυδάλεος, 53.

δάπης, 64.

de, preposition, 156.

-de, adverbial termination, 248.

dēdāe, 201.

dedro, dedrot, = *dederunt*, 199.

δείκνυμι, δέικνυμεν, quantity of, 191.

δείδμεν (Ep.), *δέδιμεν*, 192.

δειδίσσομαι, 53.

δελφίν, δελφίς, 111.

δή, 131.

δηλοιο, 65.

-dem, -do, -dam, etc., 156, 249.

denuo, adv., 247.

deus, 156.

dico (in *-dic-are, δικη*), 55, 206.

dicundo (*jure*), 57, 61.

δίδη, διδέντων (*δέω*), 205.

δίδοιμι, 53.

dīz, gen. sing., 121.

dies, Diespiter, 156.

-dio-s, adjectival termination, 80.

dīu, 248.

Dius Fidius, 156.

dixti, 59, 228.

δίξῃαι, 2 sing., 180.

dominus, formation of, 98.

dono dedit, 73.

dōs (imper.), 170.

δότειρα, 107, 240.

δουρός (*δῶρυ*), 119.

duellum (*bellum*), *duonorum* (*bonorum*), 51.

δυνόν (Boeotian) = *ζυγόν*, 80.

dudum, 248.

duim (*daim, δαίην*), 186.

-dum, 156.

E, a phonetic variety of *A*, 36, 57, 95; position of, in scale of Latin sounds, 57.

e, affinity of, to *r*, 61.

-e, gen. sing., 121.

ē (orig. *ē*), abl. sing., 125.

-ē, -ei, -i, dat. or loc., 128.

ē, pronoun, 145; declension of, 145.

ē, for reduplication, 189.

ε, in conjug. of weak aorist (Epic), 217.

-ē, -ē, Latin adverbs in, 248.

- ἦα = ἦν, 213.
 ἔαδον, 164.
 -εαι (Epic), -ει, -η, 2 sing. mid., 180.
 ecce, 248.
 ecus (equus), 62.
 ἐγώ, ἐγών, etc., *ego*, 142, 147.
 edim, 186.
 ἦδεα (ἦδειν), conjugation of, cp. with Latin *videram*, 224.
 ἔζομαι (*sed-es*), 76.
 ει-, for reduplication, 189.
 -ει, 3 sing., 176.
 εἶην, optat., 186; εἶην (= ἐσ-ίην, *syam, siem*), conjugation of, *ib.*
 εἰκοσι, *viginti*, 78.
 εἶμι, εἰμί (ἐσμί), 5, 99.
 -ειν (-εσα, -εα), pluperf. I sing., 223.
 -ειν, infinitive in, 231.
 εἶναι, ἔμμεναι, 230.
 εἶο, εἶο, εὔ, etc., 146.
 εἰπωμι, conjunctive, 169.
 -ειρα, feminine, 107, 240.
 -εις, 2 sing., 170.
 -εις, -εσσα, *adj.*, 235.
 -eis, plur. of *o*-stems, 114; of *i*-stems, 113.
 -eis, dat. plur. of *is*, 63, 155.
 eis = *is*, 154.
 eis, nom. plur. of *is*, 114, 155.
 eis, preposition, 157.
 εἰστήκειν, 66.
 ἐκ ποντόφιν, 131.
 ἔκτονα, perfect, 79.
 ἐλάσσω, 75, 209.
 -ην, aor. pass., 225.
 -εν, Doric infinitive, 231.
 -ellus, -illus, ullus, (diminutives), 59.
 ἤλυθον, ἐλήλουθα, 54, 83.
 -em, accus. sing. in Latin, 116.
 -em, subj. (optative) forms in, 186.
 ἐμεῖο, ἐμεῦς, ἐμοῦς, gen. sing., 143.
 ἡμεῖς, 66, 144.
 ἐμίν, 143.
 ἐμμί (Aeolic), 74; ἦν, imp., 213.
 -endo (in), 157.
 -εναι, infinitive, 230.
 ἐνεμα, ἐνεμμα, ἔστειλα, ἔστελλα, etc., 216.
 enim, *nam*, 83, 249.
 ἦνίπατε (aorist), 201.
 ἐννυμι, *ves-tis*, 74.
 -ens, -ent-is, participial termination, 103, 236.
 ἔον (imperf. εἰμι), 213.
 -εω, -εζω, derivative verbs in, 104, 209, 210.
 -εω, gen. sing. of *a*-stems in Greek, 119.
 ἐώθον, ἐωνόμην, ἐώρων, etc., 164.
 ἦφι Βίρηφι, 131.
 ἔπομαι, *sequor*, 50.
 equester, 79.
 equidem, *quidem*, 83.
 equus (ἵππος, *agrus*), 49, 50.
 eram, conjugation of, cp. with Skt. *āsam*, Gk. ἦα, ἦν, 213; quantity of *ā* in, *ib.*
 -ēre, 3 plur. perf. indic., 58.
 -ēre, 2 sing. pass., 58.
 ergo, *adv.*, 247.
 ἐργον (*work*), 68, 71.
 ero, 221.
 ἔρρεον, 165.
 ἔρunt, 3 plur. perf. indic., 199; tendency to shorten *e* of, *ib. note*.
 ἔς (*sum*), ἔς (*edo*), 170.
 -ēs, nom. plur., 112; -ēs (Lat.), 113.
 -ess, feminine termination, 108.
 ἔσσα (ἐννυμι), 216.
 esse (*edo*), 74, 233; (*sum*), 233.
 ἔσσεναι, ἐχεναι, 216, 217.
 ἐσ-μέν, ἐσ-τέ, 17.
 ἐσσεῖται, Doric fut., 218.
 ἐσ-σι (ἐλ), 17, 170.
 ἦσσαν, 75, 209.
 est (*edo*), 79.
 ἐσταύτες, 236.
 ἔστελλα (Aeolic), I aor., 74.
 ἦσθα, 171.
 ἔθην, ἐθέμην, conjugation of, 209.
 εὐαδε (Epic), 164.
 euntes, 61, 62, 236.
 extemplo, 247.
 exiet, 220.
 F in Latin alphabet, 43, 69.
 f sound, formation of, 35; pronunciation, 69.
 f representing aspirate sounds, 70.
 faecesso, 223.
 facillimus, 75, 134.
 fallo, σφάλλω, 71.
 famul, 67.
 fari, 70.
 favi (cp. *ēgi, jēci*, etc.), quantity of, 196.
 faxim, 221.
 femina, 70.
 feriae (*fes-tus*), 66.
 ferrem, 75, 227.
 fidē, gen. sing., 121.

fides, fido, foedus (*foidos*), 55.
fides, foedum (= *hoedus, hor-*
deum), 70.
fures (*θύρα, door*), 70.
fructus, frag-or, 49; frango, 207.
fui, 70, 197.
funto, σφενδόνη, 71.

G. in Latin, 31, 46; pronunciation
 of, 37.

gaudes, gavisus, 59.
γενέτεσθαι, 65.
γεν-έ-της, 165.
γένος, genus, janas, 58.
generis, γένους, 61, 66, 120.
genus, declension of, 137.
γίγνομαι, γίγνω, 205.
γύναι (voc.), 118.

H, the character, 43.

h, sound of, 34.

h, insertion of, after *p, t, c, r*, in
 Latin, 82.

harena, harundo, haruspe, etc.,
 orthography of, 82.

Ἠκυβή, Hecuba (Hecoba), 61.

hesti (χθής), hesternus, 66, 126.

hō, peculiarities in declension of,
 154.

hiemps, hiems, 50, 84.

hiscē, nom. plur., 114.

hōc = huc, 154.

honōr, honōris, 60.

I, vowel, 35; semivowel (Y), *ib.*;
 attempts to distinguish them, 47;
 to represent *i, ib.*

i, scale of, 54, 55.

i sound, weakness of, 57, 59.

i representing *a* in Latin, 58.

i, loss of, in Latin, 59.

i, affinity of, for dental sounds, 62.

i becomes *e* in contact with *a, o, u,*
 62.

i (*y*), sound thrown back, 104.

-i, nom. plur. of Latin *o*-stems, 114;
 gen. sing., 120.

-i (*-ei*), abl. sing., 125.

-i (Gk. *i*), loc. sing. (orig. *in*), 126.

i, increase of pronominal stems by,
 in Latin, 152; *i*, Greek suffix, *ib.*

i (perf. subj.) and *i* (2 fut. indic.),
 confusion of, 184.

i, characteristic of Latin perfect,
 198.

iam, 156.

-ia, -iη, -i, Gk. optative suffix, 185.

ιημι, 205.

λέναι, λέναι, 230.

iens, euntis, 236.

-ier, -i, pass. infin., 234; period of
 transition between, 235.

illectum, cp. with *elictum*, 239.

illico, adv., 247.

illius, ipsius, etc., 62, 152.

-im, acc., nouns which retain, 115.

-im (*-in*), locative, of pronouns, 153;
 as adverbial termination, 249.

-im, subjunctive (optat.) forms in,
 186.

imago, imitor, 205.

ίμεν (*είμ*), 206; *ίμυς* (*εο*), *ib.*

-imus, i plur. perf. indic., quantity
 of, 199.

inclusus, 239.

induperator, 248.

-inis, genitive from Latin nouns in
-o(n), *homo, etc., 62.*

inquam, 169.

interdiu, 156.

-io, -io, verb forms in, 104, 208-
 211.

ίμεν, conjunctive, 183.

-iaw, -ior, comparative suffixes, 132,
 133.

ίών, ίώναι, ίώνγα (dialectic for *έγώ*),
 143.

ίππος (*equus, αἶπας*), 49, 50, 74, 82,
 140.

ίπποτα, ίπποτης, 110.

ipsus, ipse, 58, 67, 153.

-is, -it, of 3 conj., quantity of, 210.

-is, dat. plur., 130.

ίσασι, 176.

ίσμεν, 77.

-isse, perfect infin., 198, 232.

-issimus, superlative, 75, 134.

iste, declension of, 150.

ίστη (*ίστα-θι*), 171; *ίστας* (partic.),
 236; *ίσθι* (*είμι* and *οίδα*), 170.

-ιστο-s, Greek superlative, 134.

ίστωρ, 79.

-it, 3 sing. perf. indic., quantity of,
 197 note.

ita, 156.

juqum, ζυγόν, 80.

jure dicundo (dative?), 128.

ίζον, Epic aor. *ίκω*, 216.

ίζω, 205.

k, k, in Sanskrit, 33.

K, in Latin, 46.

KAL. (Kalendæ), *ib.*

-ka, 'weak perfect,' 193; aorist, *ib.*

καλαύροψ, 165.

καπνός, ναρορ, 50.

κεκαδών, κέκλυθι, κεχάροντο, etc., 201.

κένεος (Epic), 65.

Κίλισσα, 210.

κλαυσούμεθα, Doric future, 218.

-κον, aorist (ἤμπα-κον, etc.), 201.

κορύσσω (κόρυθ-ος), 75, 209.

L, formation of sound, 34; origin of its use as Roman numeral, 46.

l, affinity of, to *u*, 61.

l, interchange of, with *r*, 63, 64.

λλ, by assimilation from *ly*, 101, 104, 209.

ll, in Latin forms, 210.

-la, nom. suffix, 103.

lac, lact-is, 73.

laccesso, 223.

lacrima, 65.

λαμβάνω, 208.

lautus, lotus, 56.

λείπ-ω, ἔ-λιπ-ον, λέ-λοιπ-α, 53, 54.

λέλαθον, λέλαχον, 201.

λιλαίαι, 180.

λίσσομαι (λίτ-η), 75, 209.

-λλω, verbs in, 104, 209.

locassim, 221.

λύσσο, 216.

M, formation of sound, 33.

— history of the character, 44.

— origin of its use as Roman numeral, 46.

-m, 1 sing. termination, Skt. and Latin, 169.

-ma, -mo, -mon, etc., noun suffix, 102.

mage (magis), 67.

magister, minister, 133.

magistris, nom. plur., 114.

-μαι, -σαι, -ται, middle and pass., theories of their formation, 179.

malle, 233.

μαρμαίρειν, 52.

-mas (Skt.), **-mes, -mus**, 1 plur., 169. **μαχέσσομαι, μαχέσσομαι, μαχοῦμαι**, 218.

medius, μέσσος, 210.

μέλι, μέλιτ-ος, 72.

melior, 133; form, as compared with **μᾶλλον**, 210.

memoria, 53.

-μεν, -μες (**-mus**), 1 pers. plur., 169.

-μεναι, -μεν, infin. in, 229.

-μενο-s, participial suffix, 102, 236.

μέριμνα, 70.

-μέθα, -μεσθα, 181; **-μεθον** (dual), 182.

-μι, 1 pers. sing., 169.

miles, milia-ic, 61.

μμέομαι, 52, 206.

-mini, 2 plur. pass., 178.

modo, adv., 247.

N, formation of sound, 33.

n, a final sound in Greek, 72.

-n, accus. sing. in Greek, 115.

-n, 1 sing. termination, 169.

-na, -ne, -nē, -nu, use of, to form the present stem, 207.

-nam, termination, 156.

navis (navis, naus); paradigm of, 139.

ναῦν, νῆα, 115.

ne (nae), **ναί, νή**, 157, 248.

-ne, adverbial term, 248.

neg-olium (nec), 64.

nempe, 248.

νεός (navas, novus), 36.

népodes, 64.

nolle, 233.

nos, 144; **νώ, νῶε, νῶτ, νῶν, ἴθ.**

-ns, accus. plur. in Gothic, 116.

-nt, final sound in Latin, 72; treatment of stems in, 110, 111.

num, nunc, 157.

O, a phonetic variety of **A**, 36, 54, 57, 95.

O μικρόν and **Ω μεγά**, 43.

-o, ablat. sing., 124; Latin adverbs in, 247.

-ω, 1 pers. sing., 99.

-φ, -q, dat. sing., 128.

-ω, -ῶ, classification of verbs in, 168.

ῶ (ἔσ-ω-μι), conjugation of, 184.

-ῶ, contracted futures in, 219; 'Attic' future in, *ib.*

occurro (obc.), 74.

οδούς, dens, 83, 86.

-oi, -ai, nom. plur., 112.

οἶδα (Fideiv, video), 68; conjugation of, compared with Skt. *veda*, Lat. *vidi*, 190.

οἶκος (*vīcus*), οἶνος (*vinum*), 71.
 -οιμι, -οιρη, optat., 185.
 -ον, dual, 130; -οῖν (Epic), *ib.*
 αἶσθη = *uīsum*, 73, 242.
 αἶσθα, 171.
 αἶσθη, *uīn*, 153.
 ὄμμα, 74.
 ὄμφαλος, 83.
 -ωι, gen. plur., 122; participle, 232.
 ὄνομα, *nomen*, 83.
 -οντ, participle stem, (Lat. *-ent*), 232.
 -οντι (-ουσι), *-unt*, 3 pers. plur., 57.
 176; -ονται, -οντο, 182, 183.
 -όντων (Doric -όντω), *-unto*, 3 plur. imperative, 176.
 -ωω, -οῶ, derivative verbs in, 104.
 ὀφείλω, ὀφέλλω, 206.
 ὄρσο, 181, 212.
 -ώς, -βια, -ός (*For-*), perf. participle, 231.
 -ως, Gk. adverbial termination, 124.
 ὄς (*afus, aus*), 66, 145; ὄς and ὀ, 151.
 -οσο, adjectival suffix, 235.
 -ον, gen. sing., 119.
 -ου (-εσα, -εω), 2 sing. mid., 180.
 -ουσα, fem. participle, 236.
 ὀφ, voc. paradigm of, 135.

P, formation of sound, 33; the character, 42.

μ, seldom initial in Gothic and Saxon, 90.

μ, insertion of, between *m* and *t*, *s*, *l*, 84, 238.

πα-icor, πήγ-νυμι, 64.

padas (Skt.) = ποδός, πόδες, πόδας, 57.

pangunt (XII Tab.) = pangunt, 202.

παιπαλόεις, 53.

παμφαίνειν, 53.

'Purusmaī pada' (Skt.), 177.

parentes, parientes, 202.

Parilia (Palilia), 79.

interfamilias (gen.), 121.

-pe, 157, 248.

πέθω, πέποιθα, 54.

pejor, 71.

periphi (pac-tum), 59.

πέπεισμαι, 77.

πέπιδον, 201.

peruli, repuli, 195.

-per (adverbial), 250.

perperum, 249.

πεσοῦμαι, future, 219.

petesso, 223.

πίπτω, 53, 59.

plaudo, ex-plodo, 56.

πλευσεῖσθαι, πλεουσόμεθα, Doric fut., 218.

πλεχθείς (πλέκ-ω), 50, 76.

πλούσιος, 78, 175.

πόλεις, πόλις (Ionic), 112; πόλεις, accus. plur., 117.

πόλεως, πόλῃος, πόλιος (Ion.), gen. sing., 119.

pone, adverb, 248.

pono, ponui, 71.

posse, 233.

possem, etc., 227.

porgo, porrigo, 59.

pote (potis), 67.

postridie, 126.

πούς (pes), 91.

πράγμα, πράγματ-ος, 98.

πραξίμες (Doric), future, 65, 218.

praesens, 103, 236.

pridie, 156.

precus, precor, 55.

propediem, 156.

-pte, adverbial termination, 248.

Q, Q (Koppa), 45.

quaestor, quaestor, 59.

quaestuis, quaesti (gen. sing.), 120.

quando, 248.

quattuor, τέτταρες, 51.

que, 248.

ques, nom. plur., 114.

qui, adverb, 117, 248.

quia, 247.

quine, quin, 248.

quis, tis, 51.

quoad, 248.

quod, 250.

quoiei, dative, 128, 152, 155.

quom, quum, cum, 62, 154.

R, formation of sound, 34; the character, 42.

r, affinity of to e, 61.

-r (= se), characteristic of Latin passive terminations, 178.

-re (-se), Latin infinitive, 232; original quantity of, 233.

recepso, 221.

-rem, imperf. conjunctive, 227.

remus, 71.

ρέω, ἔρρευσα, ἔρρυν, etc., 70, 206.

reppuli, repperi, rettuli, 195.

ρίζα (Wurzel, wort), 71, 76.

Roma, 71.

-*rum*, gen. plur., 122.

-*ruri*, 126.

Σ, S, different forms of, 43.

s, changed to r between vowels in Latin, 64, 66.

s (σ), changed to spiritus asper, 66.

σ between vowels lost in Gk., 66.

-s, final, loss of, 67.

-s, initial, loss of, 70.

σσ (ττ), 75, 209.

ss, in Latin, 75, 76.

-s, nominative suffix, 110.

-s (-as, -es, -es), nom. plur., 112.

-s, 3 sing. (Eng.), 176.

s, representing root as, -es, various use of in verb formation, 214 note.

-σα, 'weak aorist,' 215.

-σαι, 2 sing. mid., 181.

sal, ἄλς, 64.

σάν, the letter, 44.

'Sanskrit,' meaning of the term, 11.

σαφής, 81.

σχές, 171.

-sco, -σκω, verb forms in, 211.

scopulus, σκόπελος, 61.

secundus = sequendus, 57.

sedes (ἔδος), 35, 64, 66.

-σεια, 'Aeolic optative,' 217.

senatus, senatus, senati (gen. sing.), 120.

sepultus (sepelio), 61.

sepositus, sepositus, 238.

sequor, ἔπομαι, 50.

sequor, socius, 55.

sero, 205.

-σι, -s (Skt. -si, -s), 2 sing. term., 170.

-σι, -σσι, dat. (locat.) plur., 127.

si, sic, 155.

-σι, 3 sing., 175.

-si, Latin perfect in, 196.

sido, 205.

silva, ὕλη, 64.

sim (siem), conjugation of, 186.

sisto, 205.

-σιω (Doric), future termination, 218.

-so, 2 sing. mid. (secondary form), 180.

-so, -sim, -sere, Latin future forms in, 221.

-so, formation of future in, 218-220.

sollistumum (tripudium), 134.

σῶμα, σώματ-ος, 72.

sont (French), 17.

spar-sus, 239.

-ssum, plur. conj., 227.

-σσω (-ττω), verbs in, 75, 209.

σφῶ, σφῶϊ, etc., 145.

-st, 2 sing. term. (Eng. and Germ.), 172.

statim, 249.

stella, 17, 59, 83.

-σθα, 2 sing., 171-174.

-σθαι, inf., 173, 232.

-σθε, 181.

σθένω, 81.

-σθω, 173, 182; -σθων, -σθωσαν, 182.

-sti, 2 sing., 173.

stultus, stolidus, 61.

sub (ὑπό), sus (ὑς), 35.

sún, cum, 50.

sulcus (ὄλκος), 61.

sumptus, 74.

sumpti, sumptus (sumo), 238.

συρίσδες (Doric), 170.

suus (σφύς, δς), 66, 145.

-sya, gen. sing., 118.

T, change of, to σ before ι, 78, 175; in Latin (-ti to -si), ib.; (-tus, participle suffix, to -sus), 239.

-t, nominative of stems in, 111.

ta-, pronominal stem, declension of, 150.

-tar, the root, modifications of, 95.

-tar, noun suffix (agency), 7, 102, 240.

-tara (-τερο-s), comparative suffix, 133.

τάων, gen. plur., 122.

tago = tango, 201.

-τε, 2 plur., 174.

τεοῖο (Epic), gen. sing., 145.

τεταγών, 201.

τετύφθαι, 232.

τετυφώς, τετυφός-ος, 110.

-τηρ, -τωρ, -τρον (Lat. -tor, -trum), noun-suffixes, 240.

-th, 3 sing. term. (Eng.), 176.

θέλω, ἐθέλω, 83.

-θην, aorist pass., 226.

θήλυς (femina), θήρ (fera), 35, 86, 91.

θεός, vocative, 118.

θές, 171.

-θι, 2 sing. imper., 171.

θιν, θίς, 111.

-θω (pres.), -θον (aor.), 226.

θυγάτηρ, daughter, 86.

τίθησι, 3 sing., 175.

-*tim*, adverbial termination, 249.
rís, quis, 51.
-tis, 2 plur., 175.
-tai, -to, verbal suffix (present stem), 208.
-toy, 2 dual, 175.
-twosav, 3 plur. imperat., 176.
treis, tres, etc., 20, 86.
τό (τόν), *then*, etc., 20, 86, 145.
ingurium (tepo), 62.
τόνη (Boeotian), 145.
-turus, fut. participle, 240.
turtur, 52.
-tus, participle suffix, 237; *t* of, softened to *s* after dental stems, 239.
τυφ-θεῖς (τύπ-τω), 50.
τύφθητι, 1 aor. imper., 170.
τύφας, τυφαντ-ος, 110.
U, vowel sound of, 35.
 — character (*V*) in Greek, 43.
u (=f), changes of, 68.
u, affinity of to *l*, 61, 195.
u (Latin), pronunciation of, 68.
υapor, καπνός, 50.
-vas (Skt.), dual, 170.
vayam (Skt.), nom. plur. 1 pron., 170.
ὑβρις (ὑπέρ), 64.
velle, 232.
Veda, Vedic, 53.
-ui (-vi), Latin perfect in, 196;
 origin of, 197.
viciens, 79.
victrix, 107.
vidi, conjugation of, cp. with *οἶδα*, etc., 190.
videram, cp. with *ᾔδεα, ᾔδειν*, 224.
riginti, εἴκοσι, 78.
virgo, virago, 59.
vixem, 228.
utulo, 52.
-um, gen. plur., 122; adverbial termination, 249.
umerus, umor, orthography of, 82.
-undus, gerundive termination, 57.
-unt (-οντι, -ουσι), 3 pers. plur., 57, 175-6.
-uw, -υζω, etc., derivative verbs in, 104.
volumus, 57.
vox, vōis, vōco, 99.

-uos, -uus, -uis, gen. sing. of *u*-stems, 120.
ὑπό, sub, 35; *ὑπαί*, 249.
-ūs, gen. sing. in Latin, 119, 152.
ὑσμίνη, 66.
usura, 236.
uti, ut, 155, 248.

Φ, in Greek alphabet, 45; as a numerical sign in Roman ditto, 46.

-*φα*, 'aspirated perfect,' 194.
φάσθω, 174.
φέρων, ferens, paradigm of, 136.
φευδούμαι, future, 65, 218.
-φι, -φιν (-βή), instrumental, 131.
φορέοισι, 3 plur. (Aeolic), 176.
φράζω, 76.

Χ, history of the character, in Greek and Latin, 45, 46.

χαρίεσσα, 210.
χέω, ἔχεα, ἔχενα, etc., 70, 206, 216.
χέρς (Aeolic) = *χέρ*, 111.
χεύω (Aeolic), 68.
χθών, χθόνος, 110.
χρῆν, imperfect, 163.

Ψ, the character, introduction of, 45.
ψιλὰ γράμματα, ψιλῶς γράφειν, 32.

Ξ (=κs), history of, 45.

Υ, the character, 47.
y, the semivowel sound of *i*, 35.
y, how represented in Greek, 65.
y (i), influence of in assimilation, 75, 209.
-ya (ja, io, ie), noun suffix, 102.
-ya (ιη, ιο, ι, etc.), verbal suffix, 103, 185 (optative); 208 (present stem); feminine termination, 107.
-yant (yans, ians, -ων, -ιός), comparative suffix, 132.
yug, the root, 80.

Ζ, in Greek alphabet, 44; in Roman, 46, 47.
Zeus, 76.
-ζω (=δy, γy), verbs in, 104, 209.
ζυγόν (root *yug*), 80.
ζύμη, 80.

✓

~~JUL 14 1953~~

~~JUL 14 1953~~

~~NOV 11 63 H~~
~~59845~~

~~JUL 14 1953~~

~~MAR -9 1953~~

~~DEC 10 1953~~

~~DEC 10 1953~~

~~DEC MAR -9 1953~~

~~DEC MAR 27 1953~~



3 2044 019

This book

THE BORROWER WILL BE CHARGED
AN OVERDUE FEE IF THIS BOOK IS NOT
RETURNED TO THE LIBRARY ON OR
BEFORE THE LAST DATE STAMPED
BELOW. NON-RECEIPT OF OVERDUE
NOTICES DOES NOT EXEMPT THE
BORROWER FROM OVERDUE FEES.

